March 18th, 2019

Ann E. Misback
Secretary
Board of Governors of the Federal Reserve System
20th Street and Constitution Avenue NW
Washington, DC 20551

Robert E. Feldman
Executive Secretary
Attention: Comments/RIN 3064–AE80
Federal Deposit Insurance Corporation
550 17th Street NW
Washington, DC 20429

Legislative and Regulatory Activities Division
Office of the Comptroller of the Currency
400 7th Street SW
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Re: Standardized Approach for Counterparty Credit Risk ("SA-CCR")
Board: Docket No. R-1629
FDIC: RIN 3064-AE80,
OCC: Docket ID OCC-2018-0030

Dear Sir/Madam,

The International Swaps and Derivatives Association, Inc. (**"ISDA"**), the Securities Industry and Financial Markets Association (**"SIFMA"**), the American Bankers Association (**"ABA"**), the Bank Policy Institute (**"BPI"**), and the Futures Industry Association (**"FIA"**) (together, the **"Associations"**) appreciate the opportunity to comment on the above-referenced proposal (the **"Proposed Rulemaking"**) from the Board of Governors of the Federal Reserve System (**"FRB"**), the Federal Deposit Insurance Corporation (**"FDIC"**), and the Office of the Comptroller of the Currency (**"OCC"**) (together, the **"Agencies"**).[1]

SA-CCR is a significant development that will have multiple implications for the U.S. capital framework as it replaces the current exposure method (**"CEM"**). In addition to replacing CEM for calculating Counterparty Credit Risk (**"CCR"**) default standardized risk weighted assets (**"RWA"**), the Proposed Rulemaking addresses changes to the cleared transaction framework

[1] Standardized Approach for Calculating the Exposure Amount of Derivative Contracts; Notice of Proposed Rulemaking, 83 Fed. Red. 64,660 (Dec. 17, 2018), *available at* https://www.govinfo.gov/content/pkg/FR-2018-12-17/pdf/2018-24924.pdf.

and the supplementary leverage ratio (**"SLR"**)[2] and includes a proposal for the OCC to amend its lending limit rule[3] to use SA-CCR. The Proposed Rulemaking is also relevant for the use of SA-CCR in the Credit Valuation Adjustment (**"CVA"**) risk capital framework[4] and as the exposure amount for derivatives in the output floor.[5] We thank the Agencies for their continued engagement with the Associations and our members to understand the various implications of SA-CCR and required data analysis. We generally support the move from CEM to a more risk-based measure and believe that an appropriately revised version of SA-CCR would be a major improvement over the current framework. However, there are elements of the Proposed Rulemaking that could have a significantly negative impact on liquidity in the derivatives market and hinder the development of capital markets. We are particularly concerned about the potential cost implications for commercial end-users (**"CEUs"**)[6], who benefit from using derivatives for hedging purposes. Any requirements that constrain the use of derivatives may affect the ability of CEUs to hedge their funding, currency, commercial and day-to-day risks, which would in turn weaken their balance sheets and make them less attractive from an investment perspective.

In order to inform our comments regarding the anticipated impact of the Proposed Rulemaking, the Associations have conducted an in-depth Quantitative Impact study ("**QIS**") to demonstrate the impact of the Proposed Rulemaking, with input from nine financial institutions which account for 96% of total derivatives notional outstanding at the top 25 bank holding companies.[7] The QIS results show that exposure at default (**"EAD"**) would remain flat[8], whereas CCR default standardized RWA would increase by 30%[9] as compared to CEM. The QIS results also indicate a three[10] basis points decrease in the overall SLR across the participating banks; the impact is much greater at the derivatives business level. This data clearly demonstrates the need for changes to the Proposed Rulemaking to ensure that SA-CCR more accurately reflects risk in the derivatives market.

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[2] Regulatory Capital Rules: Regulatory Capital, Revisions to the Supplementary Leverage Ratio; Final Rule, 79 Fed. Reg. 57,725 (Sept. 26, 2014), *available at* https://www.govinfo.gov/content/pkg/FR-2014-09-26/pdf/2014-22083.pdf.

[3] Lending Limits; Office of the Comptroller of the Currency Final Rule, 78 Fed. Reg. 37,930 (June 25, 2013), *available at* https://www.occ.gov/news-issuances/federal-register/78fr37930.pdf.

[4] Basel Committee on Banking Supervision, Basel III: Finalising post-crisis reforms, 109 (Dec. 2017), *available at* https://www.bis.org/bcbs/publ/d424.pdf.

[5] Basel Committee on Banking Supervision, Basel III: Finalising post-crisis reforms, 137 (Dec. 2017), *available at* https://www.bis.org/bcbs/publ/d424.pdf.

[6] Commercial end-users or CEUs as used herein include those entities exempt from the FRB's non-cleared margin requirements under 12 C.F.R. § 237.1(d) (which exemptions are also found in the OCC's and FDIC's non-cleared margin requirements). CEUs are also referred to in some contexts as non-financial entities or non-financial end users. *See* 80 Fed. Reg. 74,916, 74,919 (Nov. 30, 2015).

[7] Office of the Comptroller of the Currency, Quarterly Report on Bank Trading and Derivatives Activities (Feb. 2018), *available at* https://www.occ.gov/topics/capital-markets/financial-markets/derivatives/pub-derivatives-quarterly-qtr3-2018.pdf

[8] *See* Appendix 2.11, Quantitative Impact Study Results, Index T1_07.

[9] *See* Appendix 2.11, Quantitative Impact Study Results, Index T1_08.

[10] *See* Appendix 2.11, Quantitative Impact Study Results, Index T1_14.

In Section VI. of the preamble of the Proposed Rulemaking (the **"Preamble"**), the Agencies note the results of previous data provided by advanced approaches banking organizations, which indicate a 7% decrease in EAD and a 5% increase in CCR default standardized RWA. We believe the divergence between the Agencies' results and the Associations' data collection warrant further analysis to fully understand the main drivers of the Proposed Rulemaking and to avoid any negative impact on the liquidity and smooth operation of capital markets.

Given the impact that SA-CCR will have on derivatives markets, we strongly urge the Agencies to consider and act upon the targeted feedback in this response so that they avoid any unintended consequences while still achieving their regulatory objectives. As discussed in greater detail below, we specifically urge the Agencies to:

- Reconsider the supervisory factors for the commodity and equity asset classes set by the Basel Committee standards.[11] At a minimum, recalibrate the supervisory factors for the commodities asset class so that they do not exceed the levels in the Basel Committee standards.

- Provide a more risk-sensitive treatment of initial margin (**"IM"**) for calculating RWA.

- Reconsider the application and calibration of the alpha factor.

- Avoid any disproportionate impact on the cost of doing business for CEUs that may result from reduced hedging.

- Allow for netting of all transactions covered by a qualifying master netting agreement (**"QMNA"**).

- Ensure SA-CCR does not negatively impact client clearing.

From a timing perspective, the Associations believe that banks should be permitted to adopt SA-CCR as soon as the Agencies issue the final rules, but the formal compliance deadline should be aligned with the mandatory compliance date for the various other components of the Basel III reform package[12] in the United States. This would ensure consistent implementation of SA-CCR and the changes in the Basel III reform package that have a direct impact on SA-CCR, which include the fundamental review of the trading book (**"FRTB"**)[13] and revised credit risk weights. Piecemeal implementation of SA-CCR followed by further changes to the U.S. capital framework would be disruptive, burdensome and inefficient. The Basel package projects a January 2022 compliance date for relevant reforms.

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[11] Basel Committee on Banking Supervision, The Standardized Approach for Measuring Counterparty Credit Risk Exposures, 19, Table 2 (Apr. 2014), *available at* https://www.bis.org/publ/bcbs279.pdf. The Proposed Rulemaking includes one supervisory factor for both the electricity and the oil/gas components of commodities rather than to distinguishing between the two as in the Basel standards.

[12] Basel Committee on Banking Supervision, Basel III: Finalising post-crisis reforms (Dec. 2017), *available at* https://www.bis.org/bcbs/publ/d424.pdf.

[13] Basel Committee on Banking Supervision, Minimum Capital Requirements for Market Risk (Jan. 2019), *available at* https://www.bis.org/bcbs/publ/d457.html.

In addition, we request the Agencies to provide clear guidance that banks will not have to incorporate SA-CCR into their Comprehensive Capital Analysis and Review (**"CCAR"**) projections until they have actually implemented SA-CCR into their spot capital ratios given the operational complexity and burden of projecting nine quarters prior to adoption, as required by CCAR. We request that the Agencies provide this guidance as soon as possible and prior to the release of the 2020 CCAR instructions to avoid uncertainty in the planning process for 2020 CCAR.

Key Recommendations

A. Supervisory Factors

Commodities: The Agencies should revisit the supervisory factors set by the Basel Committee for the commodities asset class, as they seem to be calibrated to higher volatilities than are justified by historical data for the commodities forward market. In commodities, the derivatives market is primarily used to hedge price risks stretching out months or years from the spot date. However, it appears that the Basel Committee looked only at historical spot prices when calibrating the commodities supervisory factors. The realized annual volatility across commodities is lower when referencing forward market prices versus spot/prompt month market prices. For example, spot/prompt month prices for a commodity such as natural gas can change significantly from one month to another as a result of changes in weather; specifically the spot price of natural gas may change significantly over the course of the winter if one month is unusually warm and the following month is unusually cold. However, the price of the natural gas contract maturing in two years will move much less over that same time period. We urge the Agencies to recalibrate the supervisory factors for the commodities asset class to reflect the actual volatility of the commodity derivatives market, focusing on contracts that are driven by forward rather than spot prices. It is also important to note that, based on the QIS, the EAD and RWA for commodities will increase by 29%[14] and 70%[15] respectively as compared to CEM which further demonstrates the overly conservative calibration in the Proposed Rulemaking.

If the Agencies cannot immediately recalibrate the commodity supervisory factors for U.S. implementation of SA-CCR, we strongly believe that the Agencies should at a minimum ensure that the supervisory factors do not exceed the levels in the Basel Committee standards. The Proposed Rulemaking includes one supervisory factor for both the electricity and the oil/gas components of commodities rather than distinguishing between the two. This results in the application of a uniform 40% supervisory factor for the entire energy hedging set, whereas the Basel Committee standards apply 40% to electricity while all other energy assets receive an 18% supervisory factor. The approach in the Proposed Rulemaking would result in a significantly more conservative calibration for oil/gas in the United States, which would in turn result in an unlevel playing field for U.S. banks and hence U.S. CEUs engaged in the oil and gas sector.

[14] *See* Appendix 2.11, Quantitative Impact Study Results, Index Add1c_2.
[15] *See* Appendix 2.11, Quantitative Impact Study Results, Index Add1c_7.

The higher supervisory factor for oil/gas in the Proposed Rulemaking results in a 31%[16] increase in EAD and a 37%[17] increase in CCR default standardized RWA for commodities over the EAD and RWA calculated using the supervisory factors in the Basel Committee standards. The risk of the oil/gas contracts does not support this deviation. In order to avoid penalizing U.S. banks, we strongly urge the Agencies to adopt the supervisory factors for commodities that address the actual risk of oil/gas contracts and, at a minimum, do not exceed the Basel Committee standards.

Equities: The Proposed Rulemaking's supervisory factors for equities do not align with the risks of equity contracts and would result in an increase of 23%[18] in EAD and 75%[19] in CCR default standardized RWA when compared to CEM. We urge the Agencies to consider observed volatilities for equities during periods of varying market stress and recalibrate the supervisory factors accordingly. Based on available market data we have observed the 32%[20] supervisory factor for equities in the Proposed Rulemaking is almost twice what is necessary to address volatility during times of even severe market stress.

As part of a recalibration of the supervisory factors for equities, we also urge the Agencies to differentiate based on the quality of, and risks associated with, equities. Specifically, we urge the Agencies to, at a minimum, differentiate between (i) investment grade and non-investment grade equities and (ii) developed markets and emerging markets. Market data during periods of varying market stress show that non-investment grade equities are 30-60%[21] more volatile than investment grade equities. As a result, we believe that investment grade equities should have supervisory factors that are at least 30% lower than supervisory factors for non-investment grade equities. Similarly, market data show that volatilities for equities based on issuers in emerging markets are 15-25%[22] higher than volatilities for those based on issuers in developed markets. It would therefore be appropriate to apply supervisory factors for equities based on issuers in advanced markets that are at least 15% lower than those for equities based on issuers in emerging markets.

Please see our response to **Question 12 and 13** for additional data and analysis regarding supervisory factors for commodities, equities and other asset classes.

B. Treatment of IM

[16] *See* Appendix 2.11, Quantitative Impact Study Results, Index Add8a_1.
[17] *See* Appendix 2.11, Quantitative Impact Study Results, Index Add8a_2.
[18] *See* Appendix 2.11, Quantitative Impact Study Results, Index Add1c_3.
[19] *See* Appendix 2.11, Quantitative Impact Study Results, Index Add1c_8.
[20] Annualized volatilities are calculated based on daily returns of equity securities downloaded from Bloomberg for equities that are either part of the S&P 500 or the FTSE All World index excluding the U.S.
[21] Annualized volatilities are calculated based on daily returns of equity securities downloaded from Bloomberg for equities that are either part of the S&P 500 or the FTSE All World index excluding the U.S.
[22] Annualized volatilities are calculated based on daily returns of equity securities downloaded from Bloomberg for equities that are either part of the S&P 500 or the FTSE All World index excluding the U.S.

IM is a key risk mitigant and a regulatory requirement for non-centrally cleared trades under the BCBS-IOSCO Margin Requirements for Non-Centrally Cleared Derivatives (**"UMR"**). [23] While allowing for some reduction of potential future exposure (**"PFE"**) for IM, the overly conservative assumptions embedded within the Proposed Rulemaking result in a risk-insensitive treatment of IM, leaving in all instances the PFE multiplier substantially higher than it should be based on the economic and risk-reducing properties of the IM.

The assumptions are particularly insensitive to over collateralization, as highlighted by the QIS results, which show a SA-CCR PFE reduction of 14%[24] compared to 43%[25] under CEM. The absence of potential diversification benefits across derivatives and collateral further adds to the conservativeness of IM recognition under the Proposed Rulemaking. In particular, IM is typically posted as securities that are subject to haircuts. These haircuts are calculated on a security-by-security basis without providing diversification benefits across different collateral and/or the collateral and the netting set it secures.

The conservative calibration of the SA-CCR aggregated amount (**"Add-on"**) should be adjusted significantly to improve recognition of IM in the PFE multiplier. We suggest dividing the Add-on in the PFE multiplier by at least 2, which would result in a more appropriate recognition of IM that is still very conservative. Based on the QIS results, dividing the Add-on in the PFE multiplier by 2 reduced the PFE by 21%[26]. For further analysis and the rationale for this point, please see the response to **Question 10**.

C. Application and Calibration of the Alpha Factor

The Agencies note in the Preamble that the alpha factor is introduced in the context of CCR so that SA-CCR would not produce a lower exposure amount than a modelled approach. However, the Agencies should reconsider the alpha factor to ensure it accounts for the risk the SA-CCR framework is meant to cover. Specifically:

- The alpha factor should not apply to the replacement cost (**"RC"**) for the purposes of CCR default standardized RWA and SLR. The fair value of derivatives that is captured on a bank's balance sheet by its nature is not subject to additional model uncertainty. In addition, these derivative valuations go through rigorous price testing and valuation procedures and are subject to internal and audit reviews (similar to any other valuations). This same principle with respect to RC also applies to the modelled

[23] Basel Committee on Banking Supervision, Margin Requirements for Non-Centrally Cleared Derivatives (Sept. 2013), *available at* https://www.bis.org/publ/bcbs261.pdf. The U.S. has implemented its rules for non-cleared margin. *See* Margin and Capital Requirements for Covered Swap Entities; Final Rule, 80 Fed. Reg. 74,840 (Nov. 30, 2015), *available at* https://www.govinfo.gov/content/pkg/FR-2015-11-30/pdf/2015-28671.pdf; Amendments to Margin and Capital Requirements for Covered Swap Entities; Final Rule, 83 Fed. Reg. 50,805 (Oct. 10, 2018), *available at* https://www.govinfo.gov/content/pkg/FR-2018-10-10/pdf/2018-22021.pdf.
[24] *See* Appendix 2.11, Quantitative Impact Study Results, Index T5b_12.
[25] *See* Appendix 2.11, Quantitative Impact Study Results, Index T5b_11.
[26] *See* Appendix 2.11, Quantitative Impact Study Results, Index T5b_13.

approach to the extent that the current fair value is reflected in the EEPE. However, given that the current fair value of the netting set is not separated from the simulation in the EEPE, the alpha multiplier cannot be easily removed from the RC component. But, this does not mean that the gross up of the RC by 40% should remain under SA-CCR where PFE and RC are two distinct components. The QIS results indicate that for trades modelled under the internal models methodology (**"IMM**"), the SA-CCR EAD is 110%[27] higher than the IMM EAD. This is reduced to 90%[28] higher if alpha is not applied to RC. It should be noted that SA-CCR without alpha applied to RC results in an 8%[29] decrease in EAD and a 20%[30] increase in CCR default standardized RWA compared to CEM. This is impactful, but much more appropriate than EAD being flat[31] and an increase of 30%[32] in CCR default standardized RWA for SA-CCR with alpha applied to the RC.

- The Agencies should recalibrate the alpha factor as it applies to the PFE for the purposes of RWA. The Basel II standards were implemented in the U.S. in 2007[33] and at that time set the alpha factor at 1.4 for the purposes of IMM. However, certain of the rationales for this alpha factor value for the purposes of IMM do not apply to SA-CCR. For example, supervisory factors in SA-CCR are already calibrated to reflect stress volatilities observed in recent years, the SA-CCR methodology does not assume granularity across a bank's counterparty exposures and most importantly there is no internal model risk under SA-CCR. As a result, the Associations believe it is important to properly determine and recalibrate the appropriate alpha factor to apply to PFE for the purposes of RWA instead of simply importing the alpha from IMM.

- The alpha factor should not apply at all for transactions with CEUs, irrespective of the approach that the Agencies take in response to the requests above. Such treatment for transactions with CEUs would be consistent with UMR exemptions for CEUs and with the actual risk posed by CEUs.[34] Please see Part D below for further discussion on CEUs.

[27] *See* Appendix 2.11, Quantitative Impact Study Results, Index T2a_1.2.4_comb.
[28] *See* Appendix 2.11, Quantitative Impact Study Results, Index T2a_11.12.14_comb.
[29] *See* Appendix 2.11, Quantitative Impact Study Results, Index T2b_1.
[30] *See* Appendix 2.11, Quantitative Impact Study Results, Index T2b_2.
[31] *See* Appendix 2.11, Quantitative Impact Study Results, Index T1_07.
[32] *See* Appendix 2.11, Quantitative Impact Study Results, Index T1_08.
[33] Risk-Based Capital Standards: Advanced Capital Adequacy Framework - Basel II, 72 Fed. Reg. 69, 287 (Dec. 7, 2007), *available at* https://www.govinfo.gov/content/pkg/FR-2007-12-07/pdf/07-5729.pdf.
[34] Removing the application of the alpha factor from transactions with CEUs would also account for some collateralization arrangements such as liens on non-financial assets. By treating transactions with CEUs as completely uncollateralized, the Proposed Rulemaking significantly overstates the risks associated with CEU transactions.

The QIS results indicate that SA-CCR EAD is overall 77%[35] higher than IMM EAD, and CCR default standardized RWA would be 122%[36] higher than advanced approaches RWA using IMM, which affirms the overly conservative calibration of SA-CCR.

Please see the response to **Question 3** for further discussion on this alpha factor issue.

D. Improving Risk-Sensitivity in SA-CCR Calculations Involving CEUs

The Basel Committee's stated goal for SA-CCR was to develop a risk-sensitive methodology that differentiates between margined and unmargined trades and provides more meaningful recognition of netting benefits than the existing non-modelled approach. The Associations' QIS demonstrates that under SA-CCR, EAD and CCR default standardized RWA would be lower for most exposures subject to bilateral margining agreements as compared to what they would be under CEM. However, based on the QIS, under SA-CCR, EAD and CCR default standardized RWA increase 35%[37] and 50%[38] respectively, as compared to under CEM for CEUs[39].

We believe that the SA-CCR framework should include reasonable accommodations to more accurately reflect banking organizations' underlying credit exposures in derivatives transactions with CEUs. While SA-CCR's focus on margining, directionality and clearing generally improves risk-sensitivity in counterparty credit risk calculations, SA-CCR does not include exposure adjustments to reflect CEUs' investment grade status or the letters of credit (**"LOCs"**), liens and similar pledges that reduce a banking organization's counterparty credit risk. Similarly, SA-CCR does not recognize the portfolio credit risk diversification benefits associated with exposures to CEUs or the fact that directionality in CEUs' derivatives portfolios may balance and offset directionality in the CEUs' underlying commercial positions, thereby potentially reducing CEUs' default risk on directional derivatives portfolio.

On the one hand, the Agencies have generally exempted CEUs from regulatory non-cleared margin and clearing requirements to ensure that CEUs have ongoing access to derivatives markets to hedge and mitigate their commercial risk. On the other hand, the Proposed Rulemaking would impose significant economic penalties on banking organizations that enter derivatives transactions with CEUs for these purposes. It is critical that the final SA-CCR standard reconcile these issues in a way that supports the policy objectives behind the CEU margin and clearing exemptions while at the same time ensuring that banking organizations appropriately manage their credit risk associated with non-margined CEU transactions. We

[35] *See* Appendix 2.11, Quantitative Impact Study Results, Index T1_01.
[36] *See* Appendix 2.11, Quantitative Impact Study Results, Index T1_02.
[37] *See* Appendix 2.11, Quantitative Impact Study Results, Index Add1b_4.6_comb.
[38] *See* Appendix 2.11, Quantitative Impact Study Results, Index Add1b_11.13_comb.
[39] CEUs include those entities exempt from the FRB's non-cleared margin requirements under 12 C.F.R. § 237.1(d) (which exemptions are also found in the OCC's and FDIC's non-cleared margin requirements). CEUs are also referred to in some contexts as non-financial entities or non-financial end users. *See* 80 Fed. Reg. 74,916, 74,919 (Nov. 30, 2015).

believe that the Agencies could achieve such a result by not applying an alpha factor to transactions with CEUs.

The proposed 1.4 calibration of the alpha factor is, by design, a rough estimate or add-on to ensure conservatism in derivatives counterparty credit risk calculations that is rooted in historical credit risk analysis performed for IMM calibration. Applying such an alpha factor to transactions with CEUs would conflict with policy objectives of ensuring CEUs can use derivatives to hedge and mitigate their commercial risk and the actual counterparty credit risk of transactions with CEUs. Given CEUs transactions are generally unmargined, the application of alpha is even more punitive for these transactions and therefore unfairly penalizes the CEUs more than other counterparty types.

Quality of CEU Credit: Notwithstanding non-cleared margin exemptions, banking organizations actively manage credit risk in derivative transactions with CEUs based on each CEU's credit quality. Banking organizations do so by moderating the scale or duration of a derivative transaction or the threshold below which a CEU need not post margin.

Banking organizations measure counterparty credit quality in various ways. The Agencies' regulatory capital framework has long included investment grade-based distinctions, which serve as a reliable indicator of counterparty credit risk. Similarly, for credit derivatives, the SA-CCR framework distinguishes among transactions involving investment grade, speculative grade and sub-speculative grade underliers. By excluding any similar distinctions for CEU transactions, SA-CCR prohibits a banking organization from adjusting its credit exposure calculation to align with its credit risk appetite. However, SA-CCR's increased emphasis on margining arrangements increases the relevance of such distinctions in assessing banking organizations' credit risk to CEUs.

LOCs: Banking organizations often receive LOCs in support of CEUs' derivatives portfolios. LOCs can provide credit risk mitigation benefits similar to IM because banking organizations can make draws against them to receive cash as a CEU's credit quality deteriorates, as the CEU approaches default or prior to the expiration of the LOCs if it is not replaced with one of a longer maturity. In some cases, a banking organization and a CEU may negotiate for the size of a LOCs to increase in the course of the transaction in response to specifically negotiated credit quality metrics.

Some CEU transactions also incorporate LOCs as a functional equivalent to variation margin (**"VM"**). In these cases, CEUs utilize LOCs as an alternative to posting cash when changes in portfolio values would otherwise require VM to be posted in accordance with commercially-negotiated arrangements.

While a banking organization could, in some cases, rely on risk weight substitution techniques to recognize the benefits of a LOC as an "eligible guarantee" provided by an "eligible guarantor," such risk weight substitution practices are rare in derivatives transactions. As a result, the Proposed Rulemaking generally disregards the credit risk mitigation benefits associated with LOCs received by banking organizations in support of CEUs' derivatives

transactions. The majority of the banks participating in a survey conducted by the Associations recognized LOCs as a risk mitigating feature in their credit risk assessment and almost half of the banks reflected LOCs in their EAD estimate[40].

Liens and similar asset pledges: In many cases CEUs provide liens or similar asset pledges to banking organizations as security for their derivatives transactions. These arrangements are particularly important for non-investment grade CEUs, which rely on derivatives transactions with banking organizations to hedge or mitigate commercial risk or meet loan covenants supporting long-term capital investments. Liens and similar asset pledges provide banking organizations with meaningful credit risk mitigation benefits that reduce potential losses in the event of a CEU's default, thereby reducing a banking organization's actual economic exposure for such transactions.

SA-CCR's increased emphasis on risk-sensitivity and focus on the existence of margining arrangements, which are generally inapplicable to CEU transactions, suggest that SA-CCR should take into account the meaningful credit risk benefits provided by liens and similar asset pledges in CEU transactions. Based on a survey conducted by the Associations, the majority of banks recognized liens in their credit risk assessment[41].

Portfolio diversification benefits: Banking organizations active in derivatives markets face a wide range of counterparties, including bank-dealers, buy-side funds and CEUs. As a general matter, banking organizations' exposures to other large financial institutions pose greater systemic risk than exposures diversified across a wider range of counterparties, as recognized by FRB's single-counterparty credit limits and GSIB surcharge frameworks. Yet the Proposed Rulemaking applies a uniform alpha factor to all derivatives transactions, with no recognition that exposures to CEUs pose less systemic risk given the absence of strong correlations in CEUs' credit profiles. This fact is particularly striking, because the alpha factor was designed to capture concentration risk and systematic market risk, which may be less relevant for CEU transactions.

Derivative portfolio directionality as an offset to underlying commercial directionality: The Proposed Rulemaking penalizes directionality in derivatives portfolios, presumably based on an assumption that a counterparty with a significantly directional portfolio poses greater credit risk, because unanticipated market changes may put the counterparty deeply "out of the money" and at risk of default. This logic, however, does not apply to many CEU transactions, because CEUs often have significant directionality in their underlying businesses that they hedge with derivatives of offsetting directionality. Therefore, directionality in CEUs' derivatives portfolios may not signal vulnerability to unanticipated market changes but may, instead, reflect natural hedges that actually reduce vulnerability to market changes.
Please see the response to **Question 1** for further discussion on the impact to CEUs.

E. Netting Across a Single QMNA

[40] *See* Appendix 2.12, Survey results of the application of credit risk mitigants for credit risk purposes.
[41] *See* Appendix 2.12, Survey results of the application of credit risk mitigants for credit risk purposes.

The Associations appreciate the improvement in the Proposed Rulemaking's methodology as it applies to netting across multiple credit support annexes (**"CSAs"**) and commend the Agencies for adapting to market changes since the finalization of the Basel Committee standards. However, we do not agree that such a netting set should be limited to transactions with the same margin period of risk (**"MPOR"**) or exclude transactions that are settled-to-market (**"STM"**) on a daily basis. The ability to net should be based exclusively on whether a QMNA[42] is in place and provides for closeout netting per applicable law in the event of a counterparty default. The same rationale for allowing netting across multiple CSAs should also be applied to allow netting across transactions with multiple MPORs and netting of STM transactions with margined transactions if banks have a QMNA covering all such transactions. This treatment aligns with the legal netting rights and sound risk management practices.

Now that daily margining is standard practice, market counterparties do not negotiate different margin frequencies. MPOR is based on the expected liquidation period for a transaction and is meant to capture the risks associated with an extended closeout period upon counterparty default. As the MPOR is transaction-specific, it may differ across transactions that are subject to the same QMNA.[43] However, differences in MPOR are completely unrelated to the legal ability to net upon closeout. Netting should not be based on anything other than legal certainty, which is established under U.S. law if the netting agreement is a QMNA.

The Associations also remain concerned that a bank may not be able to net across all derivatives covered by a single QMNA if STM contracts within the QMNA are treated as unmargined because they are technically not subject to VM. The Proposed Rulemaking would group these contracts in a separate sub-netting set that could not net for capital purposes with other transactions under the QMNA. This treatment fails to account for the contractual terms of the QMNA that would result in one closeout amount for all contracts under the QMNA, including those that are STM. It should be noted that banks may not have the option of moving from STM, in particular for futures where STM is the standard. In addition, STM offers clear advantages over CTM given the legal status of collateral as settled and therefore we do not believe that it is a sensible outcome for banks to move to CTM in the limited cases where this might be feasible in order to net across all derivatives covered by a single QMNA.
Please see **Appendix 2.2** for a detailed explanation of this issue related to netting of STM and collateralized to market (**"CTM"**) transactions.

F. Client Clearing

We urge the Agencies to ensure that the SA-CCR framework does not negatively impact client clearing. Specifically, the final SA-CCR methodology for SLR and CCR default standardized RWA should include an offset for IM and VM provided by a client in a cleared derivatives

[42] *See* 12 CFR § 50.3 (defining qualifying master netting agreement).
[43] Regulatory Capital Rules: Regulatory Capital, Implementation of Basel III, Capital Adequacy, Transition Provisions, Prompt Corrective Action, Standardized Approach for Risk weighted Assets, Market Discipline and Disclosure Requirements, Advanced Approaches Risk-Based Capital Rule, and Market Risk Capital Rule, 78 Fed. Reg. 62,018, 62,221 (Oct. 11, 2013), *available at* https://www.govinfo.gov/content/pkg/FR-2013-10-11/pdf/2013-21653.pdf.

transaction. As the Financial Stability Board's Derivatives Assessment Team (**"DAT"**) recently concluded in its final report, "the [current] treatment of IM in the leverage ratio can be a disincentive for client clearing service providers to offer or expand client clearing" and "this might translate into higher costs for clients and a reduced availability of clearing services."[44] Due to the current failure to recognize the exposure-reducing effect of IM, clearing has not decreased systemic risk to the extent it should have, because fewer clearing members are available to take on a book of positions from a failing clearing member and the remaining clearing members that are associated with the banks would be particularly unwilling to take on positions in times of system-wide stress when their SLRs are depressed.[45] This scenario is inconsistent with the Pittsburgh G20 Leaders' commitment[46] to derivatives clearing and U.S. policies designed to promote central clearing of derivatives in order to increase financial stability, including by implementing lower capital requirements for cleared derivatives.

Industry data[47] shows that implementation of SA-CCR in the SLR without an offset for IM and VM would not sufficiently address the negative consequences of the SLR's current treatment of client clearing under CEM. Specifically, data for client cleared trades (**"CCT"**) leverage ratio exposure (**"LRE"**) under SA-CCR in the Proposed Rulemaking is 0.94 times CCT LRE under CEM. In contrast, industry data shows that implementation of SA-CCR in the SLR with an offset for IM would meaningfully decrease banking organizations' client clearing exposures by 37%. Whilst significant for banks' derivatives business units, this decrease would not, however, have a meaningful impact on the banking organizations' overall SLR, which would decrease by only 2.2bps. An offset for IM and VM in the SLR would therefore reduce existing disincentives for banking organizations to provide client clearing services without having a negative impact on overall safety and soundness of banking organizations. Additionally, we note that the revised European Union Capital Requirements Regulation II, maintains an offset in the leverage ratio denominator for IM provided by a client in a cleared derivatives transaction[48].

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[44] *See* Derivatives Assessment Team, Incentives to Centrally Clear Over-the-Counter (OTC) Derivatives: A Post-Implementation Evaluation of the Effects of the G20 Financial Regulatory Reforms – Final Report, 4, 67 (Nov. 19, 2018), *available at* http://www.fsb.org/2018/11/incentives-to-centrally-clear-over-the-coupnter-otc-derivatives-2/.

[45] As the DAT Report acknowledged, as a result of the Basel Committee standards leverage ratio, "other providers may be unwilling to take on additional business, leaving some of the affected clients without access to OTC derivatives clearing." Derivatives Assessment Team, Incentives to Centrally Clear Over-the-Counter (OTC) Derivatives: A Post-Implementation Evaluation of the Effects of the G20 Financial Regulatory Reforms – Final Report, 54 (Nov. 19, 2018), *available at* http://www.fsb.org/2018/11/incentives-to-centrally-clear-over-the-coupnter-otc-derivatives-2/.

[46] G20 Leaders' Statement, Framework for Strong, Sustainable and Balanced Growth, The Pittsburgh Summit (Sep. 24-25, 2009), https://www.treasury.gov/resource-center/international/g7-g20/Documents/pittsburgh_summit_leaders_statement_250909.pdf.

[47] *See* ISDA, GFMA, IIF response to the Basel committee consultation on Leverage ratio treatment of client cleared derivatives (Jan. 16, 2019), *available at* https://www.bis.org/bcbs/publ/comments/d451/isda_gfma_iif.pdf.

[48] *See* Amending Regulation (EU) No 575/2013 (article 429a para (1.h)), *available at* https://data.consilium.europa.eu/doc/document/ST-6288-2019-INIT/en/pdf.

It is also important for the Agencies to clarify that the five business-day MPOR floor applies to client-facing cleared exposures if a clearing member that is a bank acts as an agent or intermediary for those transactions. Section 132(c)(9)(iv) of the Proposed Rulemaking states that the five business-day MPOR floor is applicable to "cleared derivatives". However, the Proposed Rulemaking also provides that a client cleared exposure is an "OTC derivative" and not a "cleared derivative". As a result, the Proposed Rulemaking would not extend the five business-day floor to client-facing cleared exposures. This treatment is inconsistent with the current U.S. IMM requirements[49] and the Basel Committee standards for SA-CCR[50] and would further disincentivize client clearing. Consistent with this, the Agencies should also clarify that banks can use a 5-day holding period for the purpose of calculating collateral haircuts for client cleared exposures under Section 132(b)(2)(ii)(A) of the Proposed Rulemaking.

In addition, the netting issue related to STM, which is discussed in Part E of this letter, could have significant impact on client-facing cleared exposures.

Please see the response to **Questions 16 and 17** for additional discussion of these issues.

Additional Comments

G. Recognition of Diversification and Netting Benefits within Certain Asset Classes

The Associations welcome the Proposed Rulemaking's approach of netting by currency instead of currency pair and removing the settlement currency for foreign exchange rate (**"FX"**). However, we are concerned that the double counting that can occur due to splitting currency pairs results in an increase in exposure. Based on the QIS, using netting by currency would increase the EAD for FX by 2%[51] and the CCR default standardized RWA by 3%[52] compared to netting by currency pair. To mitigate this double counting, the Associations propose to incorporate a correlation parameter into the net currency aggregation similar to that used in the minimum capital requirements for market risk. This would lead to a decrease in EAD by 16%[53] and CCR default standardized RWA by 13%[54] for FX. As an alternative solution to the double counting issue, exposure could be defined as the maximum of the net long and net short

[49] Regulatory Capital Rules: Regulatory Capital, Implementation of Basel III, Capital Adequacy, Transition Provisions, Prompt Corrective Action, Standardized Approach for Risk weighted Assets, Market Discipline and Disclosure Requirements, Advanced Approaches Risk-Based Capital Rule, and Market Risk Capital Rule; Final Rule, 78 Fed. Reg. 62,018, 62,221 (§ ___.132(d)(5)(iii)(C)) (Oct. 11, 2013) *available at* https://www.govinfo.gov/content/pkg/FR-2013-10-11/pdf/2013-21653.pdf.

[50] Basel Committee on Banking Supervision, The Standardized Approach for Measuring Counterparty Credit Risk Exposures (Apr. 2014), *available at* https://www.bis.org/publ/bcbs279.pdf.

[51] *See* Appendix 2.11, Quantitative Impact Study Results, Index Add4a_1.

[52] *See* Appendix 2.11, Quantitative Impact Study Results, Index Add4a_5.

[53] *See* Appendix 2.11, Quantitative Impact Study Results, Index Add4a_3.

[54] *See* Appendix 2.11, Quantitative Impact Study Results, Index Add4a_7.

exposures by currency. This would lead to a decrease in EAD by 9%[55] and CCR default standardized RWA by 7%[56] for FX.

The Associations also believe that correlation benefits should be recognized across different currencies within the interest rate asset class to improve risk sensitivity. The recent CFTC paper on SA-CCR[57] illustrates the impact of grossing up the Add-ons undiversified across different currencies. The paper concludes that this is one important driver for the conservative calibration of SA-CCR.

In addition, banks should be allowed to decompose indices within credit, equity and commodity asset classes to more accurately reflect the exposure of highly correlated long and short positions. The hedging set amount for equity and credit derivative contracts requires a bank to differentiate between index and single name underliers for the purposes of different supervisory factors, option volatilities and correlation parameters.[58] With respect to commodity indices, a bank would have to select a single supervisory factor to the index and treat it as a single commodity sub-class as opposed to a diversified index. As a result, banks are unable to decompose an index into its underlying components as they do for other capital requirements (e.g., FRTB under the Basel Committee standards)[59].

See the response to **Question 8** for further discussion on the aggregation of FX trades, **Appendix 2.8** for more details on interest rate trades and **Appendix 2.3** for a description of the specific ways in which the option to decompose an index would increase risk-sensitivity for banks.

H. Determination of the Adjusted Derivative Contract Amount

According to the Proposed Rulemaking, the adjusted derivative contract amount consists of four components:

1. Adjusted notional amount of a derivative contract
2. Supervisory delta adjustment
3. Maturity factor
4. Supervisory factor

The Associations provided recommendations related to the supervisory factors in **section A** above. We recommend the following with respect to the other three components:

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[55] *See* Appendix 2.11, Quantitative Impact Study Results, Index Add4a_2.
[56] *See* Appendix 2.11, Quantitative Impact Study Results, Index Add4a_6.
[57] U.S. Commodity Futures Trading Commission, An Empirical Analysis of Initial Margin and the SA-CCR (Sept. 2018), *available at* https://www.cftc.gov/sites/default/files/2018-07/SA-CCRPaper0718.pdf.
[58] Standardized Approach for Calculating the Exposure Amount of Derivative Contracts; Notice of Proposed Rulemaking, 83 Fed. Reg. 64,660, 64,674-76 (Dec. 17, 2018), *available at* https://www.govinfo.gov/content/pkg/FR-2018-12-17/pdf/2018-24924.pdf.
[59] Basel Committee on Banking Supervision, Minimum Capital Requirements for Market Risk (Jan. 2019), *available* at https://www.bis.org/bcbs/publ/d457_faq.pdf.

Adjusted notional amount of a derivative contract: As a general principle, it is important to align the notional definition of a derivative contract with the bank's actual closeout risk. While standard notional definitions may produce reasonably accurate exposure estimates for the majority of derivatives, this would not always be the case. For some derivatives, it is impossible to accurately calculate exposure using standard notional definitions. Therefore, we believe that banks should be allowed to use internal definitions in cases where the rules are not prescriptive subject to internal governance practices and consultation with, and oversight from, their onsite supervisory teams.

The Associations also recommend definitional clarifications with respect to the supervisory duration calculation for interest rates. For the vast majority of interest rate derivatives, e.g. fixed-for-floating interest rate swaps, the floating rate is determined at the beginning of the reset period and paid out at the end. During the reset period, the payments for both legs are fixed and are only exposed to interest rate fluctuations indirectly through discounting of the fixed net cash flow amount. For these types of interest rate derivatives, the Associations recommend that the start date (**"S"**) in the supervisory duration formula should be defined as the time period in years until the earliest reset date.
This formulation should also apply to basis swaps but, for basis swaps, the start date should be defined as the time period in years of the earliest reset date of the two floating legs. This principle should further apply to the supervisory duration of the underlying swap in a swaption given that at expiry, the floating rate is fixed until the next reset date. See **Appendix 2.9** for more details on duration."

The Associations are also concerned about the Proposed Rulemaking's impact on "to be announced" (**"TBA"**) transactions. Agency TBA trading is instrumental in providing liquidity and pricing to the overall mortgage market. Under the Proposed Rulemaking, CCR default RWA for TBAs would increase by a substantial amount because banks must consider the maturity of the underlying pass-through security when determining the supervisory duration. Agency pass-through securities are long-dated with 30 years as the standard and the corresponding supervisory duration would be around 16. The resulting rise in adjusted notional amount under SA-CCR would result in a substantial increase in capital requirements.
To alleviate these issues, the Associations recommend that for adjusted notional calculation purposes, the notional amount for TBAs be defined as equal to the time-weighted average of the underlying pass-through securities based on an amortization schedule of the mortgages underlying such securities. TBAs are essentially forward contracts on agency pass-through securities. The underlying mortgages of the pass-through securities are subject to a standard amortizing schedule based on the amount that the principal of the mortgages will decline over time. However, the principal amount of the underlying securities does not reflect this future decline. Using the amortization of the mortgages underlying the pass-through securities for TBAs as the notional amount would still be conservative because the pass-through securities would also be subject to pre-payments that, if taken into account, would lower the time-weighted amount. This notional amount for TBAs would also be consistent with the language

under Section 132(c)(9)(ii)(A)(2) of the Proposed Rulemaking, which provides that the notional amount for a variable notional swap is "equal to the time-weighted average of the contractual notional amounts of such a swap over the remaining life of the swap". For example for a TBA with a remaining 30-year underlying maturity and an average interest rate of 2.5%, such time-weighted average notional would be around 56% of the principal notional amount.

Supervisory delta adjustment: The Proposed Rulemaking addresses one of the main shortcomings of CEM by allowing banks to delta adjust the notional for non-linear derivatives. While we welcome the application of deltas, we are concerned that the Proposed Rulemaking requires the use of the Black-Scholes formula to calculate the deltas. Banks should be allowed to follow existing internal practices applicable to path-dependent options and other complex non-linear derivatives for which the Black-Scholes formula does not work. Use of such internal practices should be subject to a bank's internal model governance framework and supervisory oversight.[60] Use of internally calculated deltas would be consistent with the Basel Committee standards for FRTB.[61]

The Black-Scholes formula may be an appropriate methodology to calculate deltas for some options but it does not work for certain non-linear derivatives, including in particular, Bermudan, Asian, Barrier and other path dependent options. The Black-Scholes formula prices options based on the probability of the underlier being above (or below) a certain threshold at a specific single point in the future (as in European options)[62]. However, in the case of a path dependent option, the price is not determined by a single price point but is instead determined by the path that the underlying asset takes during the option's tenor. This results in an unlimited number of probabilities that impact the price of the option, which the Black-Scholes formula fails to capture.

To overcome the limitations of the Black-Scholes formula, the general market practice is to use simulation techniques that incorporate the different probabilities and appropriately capture and price complex options. See the response to **Question 11** for more on option deltas.

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[60] Banks could follow the prior notification requirement in FRB and OCC Guidance and provide notice to their supervisors when the internally produced delta materially impacts RWA. *See* Board of Governors of the Federal Reserve System, Guidance Relating to Notifications of Material Changes to Advanced Systems and Modelling Changes, BCC 14-2 (Oct. 10, 2014), *available at* https://www.federalreserve.gov/bankinforeg/basel/files/bcc1402.pdf; Office of the Comptroller of the Currency, Guidance on Advanced Approaches GAA 2014-02: Guidance Relating to Notifications of Material Changes to Advanced Systems and Modelling Changes, *available at* https://www.occ.treas.gov/topics/capital/gaa-2014-2-guidance-on-advanced-approaches.pdf.

[61] Basel Committee on Banking Supervision, Minimum Capital Requirements for Market Risk (Jan. 2019), *available at* https://www.bis.org/bcbs/publ/d457.html.

[62] For European options, the Black-Scholes formula is appropriate because the probability (and as the result option value) can be derived using differential equations techniques; furthermore resulting equation is simple enough for the solution to be expressible in a closed form, which makes it possible to have analytical expressions for sensitivities, including delta.

Maturity factor: The Proposed Rulemaking includes new language related to MPOR. The Associations would like to confirm the MPOR determination under SA-CCR would be consistent with IMM.

- Under Section 132(c)(9)(iv) of the Proposed Rulemaking, the applicable MPOR floor is doubled for a derivative contract subject to an outstanding dispute over VM. While doubling the MPOR floor as a result of margin disputes is consistent with current capital rules, the conditions for doubling MPOR are inconsistent. Currently under IMM, a bank has to double MPOR only if over the two previous quarters, more than two margin disputes in a netting set have occurred and lasted longer than the MPOR.[63] The Associations request confirmation that under SA-CCR, a bank has to double MPOR if over the two previous quarters, more than two margin disputes over the VM for a netting set have occurred and lasted longer than the MPOR.

- The Associations request that the Agencies clarify that the term "exotic derivative" under Section 132(c)(12) of the Proposed Rulemaking means a derivative that is not easily replaceable. Please see response to **Question 7** for more details.

Additionally see **Part F** above regarding application of the five business-day floor to cleared client exposures.

I. Valuation Adjustments

The Associations generally agree that the trade-level fair value of derivatives does not include valuation adjustments such as CVA. It is appropriate to calculate these valuation adjustments at the netting set level so that "V"[64] reflects the risk-neutral valuation of the derivatives in the netting set. However, we believe that SA-CCR should recognize valuation adjustments, such as CVA, by subtracting the adjustments from the EAD for the netting set for the following reason:

- IMM allows for incurred CVA to be subtracted from the EAD. Furthermore, the 2015 technical clarifications[65] issued by the Agencies expanded this approach to CEM to allow a bank to reduce EAD by the CVA recognized for the fair value of derivatives reported on the bank's balance sheet. The Agencies did not make a similar clarification for the standardized approach but indicated that they would revisit the treatment of valuation adjustments under the standardized approach in the context of future

[63] Regulatory Capital Rules: Regulatory Capital, Implementation of Basel III, Capital Adequacy, Transition Provisions, Prompt Corrective Action, Standardized Approach for Risk weighted Assets, Market Discipline and Disclosure Requirements, Advanced Approaches Risk-Based Capital Rule, and Market Risk Capital Rule; Final Rule, 78 Fed. Reg. 62,018, 62,221 (§ ___.132(d)(5)(iii)(B)) (Oct. 11, 2018) *available at* https://www.govinfo.gov/content/pkg/FR-2013-10-11/pdf/2013-21653.pdf.

[64] Sum of the fair values (excluding valuation adjustments) of the derivative contracts within the netting set.

[65] Regulatory Capital Rules: Regulatory Capital, Final Revisions Applicable to Banking Organizations Subject to the Advanced Approaches Risk-Based Capital Rule, 80 Fed. Reg. 41,409, 41,412 (July 15, 2015), *available at* https://www.govinfo.gov/content/pkg/FR-2015-07-15/pdf/2015-15748.pdf.

rulemakings. This Proposed Rulemaking is an appropriate opportunity for the Agencies to revisit this issue and allow the recognition of incurred CVA as an adjustment to EAD under SA-CCR for both the standardized approach and the advanced approaches.

J. GSIB

The alpha factor should be excluded from the exposure calculation that feeds into the interconnectedness indicator for the purposes of the GSIB buffer. The interconnectedness indicator is designed as a measure of a bank's activity which does not justify inclusion of the alpha factor. Please see **Question 17** for further thoughts on the GSIB buffer.

K. PFE Adjustment for Credit Derivatives in the SLR

The Associations believe that the double count of exposures for long credit derivatives in the SLR should be removed by providing banks with the option to exclude these derivatives from the PFE calculation under SA-CCR. Please see **Question 16** for further discussion on this point.

Conclusion

We appreciate the opportunity to submit our comments in response to the Proposed Rulemaking. We commend the Agencies for their efforts to make the derivatives markets safer and look forward to working with them as they continue to consider these important issues. The Associations and their members are strongly committed to maintaining the safety and efficiency of the U.S. derivatives markets and hope that the Agencies will consider our suggestions, as they reflect the extensive knowledge and experience of market professionals within the Associations and their members.

We strongly encourage the Agencies to particularly focus on the Associations' recommendations regarding the calibration of the supervisory factors, recognition of IM, application and calibration of the alpha factor, netting across a single QMNA and SA-CCR's impact on transactions with CEUs and client clearing. Our responses to the questions set forth in **Appendix 1** elaborate on these issues and provide technical justifications for our positions.

We note the limited amount of time available to compile data and examples to support our analysis and recommendations. We hope that the Agencies will remain open to receiving additional data and quantitative support as they become available. We are committed to working with the Agencies as they finalize this important rulemaking, which will be embedded throughout the U.S. capital framework and materially affect derivative markets.

As a final note, we encourage the Agencies, as members of the Basel Committee, to take the changes that result from the Agencies' final analysis back to the Basel Committee and obtain

the necessary revisions to the Basel Committee standards for SA-CCR.[66] Changes at the Basel level are necessary to facilitate consistent implementation on a global basis.

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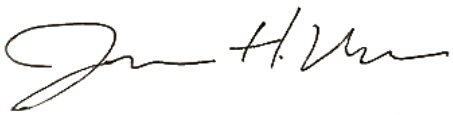

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[66] Basel Committee on Banking Supervision, The Standardized Approach for Measuring Counterparty Credit Risk Exposures (Apr. 2014), *available at* https://www.bis.org/publ/bcbs279.pdf.

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Appendix 2: Clarifications / Technical Comments / Other Issues

Appendix 1: Responses to the Proposed Rulemaking Questions:

Question 1: The agencies invite comment on all aspects of this proposal. In addition to the risk-sensitivity enhancements SA-CCR provides relative to CEM, what other considerations relevant to the determination of whether to replace CEM with SA-CCR for advanced approaches banking organizations should the agencies consider?

CEUs are active participants in the real economy and their ability to hedge certain risks through derivatives at an economical cost is critical to forward business planning, the provision of goods and services to the market and even securing financing at reasonable terms from lenders. Without derivatives, CEUs would face higher costs in obtaining inputs for production, pricing goods in the market and managing funding flows. As non-financial counterparties, CEUs typically lack the capabilities and scale to post financial collateral as margin (both as IM and VM). Some CEUs are even precluded by statute from exchanging margin with derivatives counterparties. Under the Proposed Rulemaking, unmargined derivatives receive a much more punitive capital treatment compared to those that are margined (an increase of 90% relative to current treatment according to the Proposed Rulemaking)[67] despite the use of non-qualifying non-financial collateral that provides meaningful risk mitigation. For example, the bank counterparty of a municipal government using an unmargined interest rate derivative to hedge its interest rate risk would receive a capital charge under the Proposed Rulemaking that is 3 times higher than if it were margined. Or the bank counterparty of a manufacturer using commodity derivatives to hedge its short term or seasonal exposure to energy costs may face a capital charge that is 5.6 times higher than under CEM. While the banks may absorb a portion of the additional cost of capital, some of the additional cost will inevitably be transferred to the CEUs.

While SA-CCR's more conservative treatment of unmargined transactions is justifiable when applied to transactions with financial counterparties, it should be modified in the case of CEUs to reflect related policy objectives, including CEU accommodations in the UMR and the different risk profiles of CEUs. The Agencies' exemption of end users in the UMR framework is in recognition that "these entities [(end-users)]generally pose less systemic risk to the financial system in addition to posing less counterparty risk to a covered swap entity."[68] Failing to carry this logic from the UMR framework to SA-CCR thwarts the Agencies' intent from

[67] Standardized Approach for Calculating the Exposure Amount of Derivative Contracts; Notice of Proposed Rulemaking, 83 Fed. Red. 64,660, page 64685 (Dec. 17, 2018), *available at* https://www.govinfo.gov/content/pkg/FR-2018-12-17/pdf/2018-24924.pdf.

[68] *See* Margin and Capital Requirements for Covered Swap Entities; Final Rule, 80 Fed. Reg. 74,840 (Nov. 30, 2015), *available at* https://www.govinfo.gov/content/pkg/FR-2015-11-30/pdf/2015-28671.pdf; Amendments to Margin and Capital Requirements for Covered Swap Entities; Final Rule, 83 Fed. Reg. 50,805 (Oct. 10, 2018), *available at* https://www.govinfo.gov/content/pkg/FR-2018-10-10/pdf/2018-22021.pdf.

2016, which was to ensure that CEUs could continue to hedge business risk efficiently and economically. We are concerned that if regulated banks opt not to offer these services due to punitive capital increases, the derivatives for hedging may no longer be as available to CEUs, the activity may shift from banks to less regulated and less transparent entities or the increased costs will prevent CEUs from hedging their risks.

Furthermore, while certain elements of the Proposed Rulemaking increase risk sensitivity, the Proposed Rulemaking does not alleviate the disproportionately conservative treatment of CEUs. For example, while SA-CCR allows for netting of long and short trades, banks facing CEUs are unable to benefit as the CEUs hedging activity is directional. For example, a manufacturer hedging its exposure to energy costs, an international conglomerate hedging its foreign exchange risk and a government hedging its variable interest rate exposure on publicly issued debt would all result in directional portfolios that would not benefit from netting under the Proposed Rulemaking.

Finally, elements of the U.S. regulatory capital framework make the Proposed Rulemaking especially punitive to U.S. CEUs relative to their international counterparts. For example, the U.S. places a 100% floor on advanced approaches RWA based on aggregate results under the standardized approach. This is in contrast to other jurisdictions that do not apply a floor, and whose banks therefore do not have to capitalize the binding effect of increased standardized RWA.

For all of the foregoing reasons, we recommend that the Agencies provide relief to CEUs so that they can continue to hedge normal course business risks, secure financing at reasonable rates and continue to act as agents of economic growth. The Agencies could accomplish this by removing the alpha factor from derivatives with CEUs. Removal of the alpha factor is the preferred way to both provide relief to CEUs and better align SA-CCR with the exemptions for CEUs in the mandatory clearing and UMR frameworks. The proposed calibration of alpha effectively increases exposures by 40%, exacerbating the already conservative treatment of unmargined, directional derivatives with CEUs.

Besides the impact on CEUs, the Associations are also concerned about the impact on the to-be-announced (**"TBA"**) market. TBAs are considered derivatives and as such subject to SA-CCR rules. See **Part H** for further discussion on this point.

Question 2: The agencies invite comment on the proposed effective date of SA-CCR for advanced approaches banking organizations. What alternative timing should be considered and why?

Banks should be permitted to adopt SA-CCR as soon as the Agencies issue the final rules, but the formal compliance deadline should be aligned with the mandatory compliance date for the various other components of the Basel III reform package[69] in the United States. This would ensure consistent implementation of SA-CCR and the changes in the Basel III reform package that have a direct impact on SA-CCR, which include FRTB[70] and revised credit risk weights. Piecemeal implementation of SA-CCR followed by further changes to the U.S. capital framework would be disruptive, burdensome and inefficient. The Basel package projects a January 2022 compliance date for relevant reforms.

In addition, we request the Agencies to provide clear guidance that banks will not have to incorporate SA-CCR into their Comprehensive Capital Analysis and Review (**"CCAR"**) projections until they have actually implemented SA-CCR into their spot capital ratios given the operational complexity and burden of projecting nine quarters prior to adoption, as required by CCAR. We request that the Agencies provide this guidance as soon as possible and prior to the release of the 2020 CCAR instructions to avoid uncertainty in the planning process for 2020 CCAR.

Question 3: The agencies invite comment on whether the objective of ensuring that SA-CCR produces more conservative exposure amounts than IMM is appropriate for the implementation of SA-CCR. Does the incorporation of the alpha factor support this objective, why or why not? Are there alternative measures the agencies could incorporate into SA-CCR to support this objective? Are there other objectives regarding the comparability of SA-CCR and IMM that the agencies should consider? The agencies encourage commenters to provide appropriate data or examples to support their response.

IMM is a risk-sensitive model that is calibrated to the worst of the current market and stressed market conditions and subject to ongoing performance monitoring and review by internal second line functions as well as the Agencies. In contrast, SA-CCR is an approximation of IMM with calibration that will eventually become static and potentially not reflective of future market conditions. Therefore, there is always a chance IMM will produce a more conservative EAD than SA-CCR because IMM has more stressed/volatile inputs as compared to the static supervisory factors under SA-CCR. Therefore, the Associations do not agree with an objective that aims at ensuring that SA-CCR is always more conservative than IMM. An attempt to meet

[69] *See* Basel III: International Regulatory Framework for Banks, https://www.bis.org/bcbs/basel3.htm.
[70] Basel Committee on Banking Supervision, Minimum Capital Requirements for Market Risk (Jan. 2016), *available at* https://www.bis.org/bcbs/publ/d352.pdf.

such a requirement would result in excessive capital requirements that would be delinked from the actual underlying risks of derivatives.

The Preamble also explicitly states that the rationale for the alpha is to maintain appropriate conservatism over IMM. The industry QIS demonstrates that SA-CCR results in a significant increase of 77%[71] in EAD and 122%[72] in CCR default standardized RWA when compared to IMM.

See **Part C** for the Associations' recommendations with respect to the alpha factor.

Question 4: What are the potential consequences of the proposal to cap the exposure amount for a netting set subject to a variation margin agreement at the exposure amount for such netting set in the absence of a variation margin agreement?

The Associations support capping the exposure amount for a netting set subject to a VM agreement at the unmargined exposure amount in order to address the concerns regarding the impact of a high threshold amount that are outlined in the Preamble.[73]

The threshold amount and minimum transfer amount (**"MTA"**) do not represent any current exposures or RC that are not already reflected in V and C. The inclusion of the threshold amount and MTA in RC is to offset benefits in the PFE calculation from the lower maturity factor for margined transactions. The inclusion of the threshold and MTA should not lead to a situation in which the simulated increase in exposure is greater than the unmargined exposure over the defined simulation period of one year. Therefore, the cap is necessary to prevent unrealistic exposure estimations.

The Associations concur with the Agencies' assessment in the Preamble that the two scenarios where the cap could be effective for reasons other than a high threshold amount or MTA would not be material. Furthermore, the Associations appreciate that there could be instances where the unmargined exposure amount is lower than the margined exposure amount (e.g., where the minimum MPOR is increased and the trades are short-dated). However, in these cases, the margined exposure amount is overstated and the unmargined exposure amount is a more accurate exposure estimate. This is because the closeout period reflected in the MPOR for short-dated trades cannot be increased beyond the maturity for those trades.

[71] *See* Appendix 2.11, Quantitative Impact Study Results, Index T1_01.
[72] *See* Appendix 2.11, Quantitative Impact Study Results, Index T1_02.
[73] Standardized Approach for Calculating the Exposure Amount of Derivative Contracts; Notice of Proposed Rulemaking, 83 Fed. Red. 64,660, 64,668 n.28 (Dec. 17, 2018), *available at* https://www.govinfo.gov/content/pkg/FR-2018-12-17/pdf/2018-24924.pdf.

Question 5: What are the potential consequences of the proposal to exclude from the fair value amount of the derivative contract any valuation adjustments? What are the potential consequences of instead using the market value of the derivative contract less any valuation adjustments that are specific to the banking organization?

The Associations generally agree that the trade level fair value of derivatives excludes valuation adjustments, in particular CVA. However, we believe that CVA should be allowed to be deducted from EAD. For illustration purposes please consider the following example:

- Assume on Day 1, Airline A enters into a 5-year, $100Mn notional crude oil swap with Bank B to hedge its business risk of the price increasing on crude oil. Bank B will book the swap at $0 net present value (**"NPV"**), i.e., fair value. As Airline A is a CEU, there is no agreement to exchange margin.
- Assume that a year later, crude oil prices have dropped, resulting in a positive NPV of $10Mn. However, credit spreads on Airline A have widened and so Bank B reserves $2Mn of CVA to account for any potential default losses. Bank B will therefore reflect a net income of $8Mn, which consists of a $10Mn mark-to-market gain on the crude oil swap, offset by the $2Mn CVA reserve. Bank B's balance sheet will also reflect the net balance of $8Mn.

In the above example, if Airline A were to default on day 365, the most that Bank B could lose is $8Mn because it has already reserved $2Mn. However, SA-CCR would require that banks use the full $10Mn in calculating exposure, thereby assuming that banks can continue to lose the full $10Mn, i.e. the risk neutral NPV. This results in double counting the $2Mn of reserve since it results in a reduction in shareholders' equity and is then also included in the calculation of the SA-CCR exposure. Both the numerator and denominator of the capital ratios account for the reserve. Therefore, to avoid this double counting of reserves, we ask that banks be able to reduce SA-CCR exposure by any reserves already accounted for in shareholders' equity.

Finally, removing the double counting described above would also ensure that derivatives transactions with CEUs are not unduly penalized. CVA is primarily driven by counterparties with which banks do not have margin agreements, which are predominantly CEUs.

See **Part I** for additional discussion regarding this issue.

Question 6: The agencies invite comment on the proposed alignment of the standard supervisory haircuts with the maturity factor adjustments. How could the agencies better align the standard supervisory haircuts under the capital rule with the maturity factor adjustments provided under SA-CCR?

The Associations believe that alignment of the standard supervisory haircuts is generally appropriate. However, the Associations are concerned that the following items could change the holding period and similarly the maturity factor adjustment:

- Outstanding disputes that would trigger a doubling of the MPOR, discussed in **Part H;** and
- The applicability of the shorter five-day closeout period to client cleared transactions, discussed in **Part F.**

Question 7: The agencies invite comment on the proposed definitions included in this proposal. What, if any, alternative definitions should the agencies consider, particularly to achieve greater consistency across other agencies' regulations?

Definition of Exotic Derivative

Section 132(c)(12)(iii)(B) of the Proposed Rulemaking refers to exotic derivatives. The Agencies confirmed on November 30th, 2018 that "exotic derivative" refers to "not easily replaceable" in language that is easier to understand. Given that banks have already established the operational processes for identifying "not easily replaceable" derivatives to meet the Basel III requirement, the Associations recommend SA-CCR uses the terminology of "not easily replaceable" to avoid any confusion regarding whether banks need to establish a new operational process for identifying "exotic" derivatives.

Definition of Asset Class

The Associations support the use of risk factors to group derivative contracts into the asset classes of interest rate, exchange rate, credit, equity, and commodities. However, we are concerned that the existing definitions[74] of an "interest rate derivative contract", "exchange rate derivative contract", "equity derivative contract", and "commodity derivative contract" are not aligned with the primary risk factors for some products and therefore differ from the classification used for SA-CCR.

To avoid the potential conflict for derivative classifications, we ask that the respective definitions of "interest rate derivative contract", "exchange rate derivative contract", "equity derivative contract", and "commodity derivative contract" be modified to align and reflect the methodology used under SA-CCR in the Proposed Rulemaking. While we expect the primary risk factors to largely align with the derivative definitions, we believe that in instances where the primary risk factor of a derivative is misaligned with the definitions, banks should be allowed to use the primary risk factor.

Definition of Netting Set

[74] Risk-Based Capital Standards: Advanced Capital Adequacy Framework - Basel II, 72 Fed. Reg. 62160, 62163-65 (Dec. 7, 2007), *available at* https://www.govinfo.gov/content/pkg/FR-2007-12-07/pdf/07-5729.pdf.

In the Proposed Rulemaking the Agencies changed the definition of "*Netting set*" to cover "either one derivative contract … or a group of derivative contracts". "*Netting set*" is currently defined[75] as "a group of transactions". The Associations are concerned that the change was unintentional, but may have undue consequences on transactions not within the scope of SA-CCR (e.g., repo-style transactions).

Question 8: Should SA-CCR include the alternative treatment for exchange rate derivative contracts in order to recognize the economic equivalence of chains of exchange rate transactions? What would be the benefit of including such an alternative treatment? Commenters providing information regarding an alternative treatment are encouraged to provide support for such treatment, together with information regarding any associated burden and complexity.

The Associations welcome the Agencies' alternative treatment that recognizes the economic equivalence of chains of exchange rate transactions. We note, however, that creating separate hedging sets for each foreign currency can lead to overstatement of exposure. In particular, the QIS data shows that the EAD for FX would increase by 2%[76] and the CCR default standardized RWA for FX would increase by 3%[77].

As a result, netting by currency should only be introduced if the issues leading to overstatement can be mitigated. In order to demonstrate the source of this overstatement we believe it is useful to elaborate on the reasons for the Agencies' proposal for an alternative treatment.

Currency pair and triangulation overstatement example

The following example illustrates how the Basel Committee standard definition of a foreign exchange hedging set based on currency pairs is problematic as it could lead to a substantial overestimation of exposure by not recognizing currency exposures offset across different currency pairs:

[75] Regulatory Capital Rules: Regulatory Capital, Implementation of Basel III, Capital Adequacy, Transition Provisions, Prompt Corrective Action, Standardized Approach for Risk weighted Assets, Market Discipline and Disclosure Requirements, Advanced Approaches Risk-Based Capital Rule, and Market Risk Capital Rule, 78 Fed. Reg. 62166 (Oct. 11, 2013), *available at* https://www.govinfo.gov/content/pkg/FR-2013-10-11/pdf/2013-21653.pdf.
[76] *See* Appendix 2.11, Quantitative Impact Study Results, Index Add4a_1.
[77] *See* Appendix 2.11, Quantitative Impact Study Results, Index Add4a_5.

FX Margined: ***Netting by currency pair***					* 1.4 =	SA-CCR Exposure
			Notional Rec ($)	Notional Pay ($)	PFE	EAD
Trades	Rec	Pay			48,741	68,238
FX Forward 1	EUR	GBP	1,226,700	1,248,420		
FX Forward 2	GBP	USD	1,467,560	1,500,000		
FX Forward 3	USD	EUR	1,400,000	1,345,787		

The Basel Committee standard definition ignores the actual economic relationship across the three currency pairs and effectively grosses up exposures by treating each trade as its own hedging set. This is particularly the case for so-called triangular relationships where net currency exposures are minimal relative to their gross exposures. For example, the bank pays GBP through the first transaction and receives GBP through the second currency pair. The same is also true for USD and EUR.

Alternative approach example

The Preamble suggests an alternative approach pursuant to which a hedging set is defined as the net currency exposure for each non-U.S. currency which better reflects the economic relationships as illustrated in following table:

FX Margined: ***Netting by currency***				* 1.4 =	SA-CCR Exposure
		Net Notional ($)	PFE		EAD
Trades	Currency		5,259		7,362
Net Currency 1	USD	-100,000			
Net Currency 2	GBP	219,139			
Net currency 3	EUR	-119,087			
If settlement currency is USD:			4,059		5,682

For example, $-1,248,420 of GBP leg from transaction 1 is netted against the $1,467,560 of GBP leg from transaction 2, resulting in a net GBP exposure of $219,140. As the table illustrates, the net exposures are substantially reduced and accurately reflect the fact that net currency risks are much lower. Overall, this approach would lead to a reduction in EAD of around 90% from $68,238 to $7,362 or $5,682 for non-U.S. currencies.

Double counting in the alternative approach

While this approach as described in the Preamble more accurately represents net currency exposures, particularly in cases of triangular trades, it could potentially double exposures by splitting a currency pair into two. A simple example illustrates this. Assume there is one trade

in the netting set in the form of a GBP / EUR FX forward with a notional on both sides of USD 100, and USD is the settlement currency. In such a case, the current method to net by currency pair would result in an exposure of USD 100. Netting by currency instead of currency pair would, however, result in a doubling of exposures to USD 200 even though there remains only one single FX trade of a notional of USD 100. Such a doubling of exposure is incorrect for two related reasons:

- Splitting the trade creates two exposures relative to the settlement currency, USD: one GBP / USD and one USD / EUR. Similar to the triangulation issue, the USD exposures cancel each other out because in one trade the bank is effectively short and in the other trade the bank is effectively long

- Currency risk is always relative to another currency. Given the above, the remaining FX risk is only a single exposure GBP against EUR, even though neither currency is the settlement currency.

While it is true that there is translation risk of the GBP / EUR FX forward exposure to USD, such a risk constitutes a single exposure, not two exposures. In addition, translation risk that is associated with exposure denominated in a non-U.S. currency is generally not recognized explicitly for derivative transactions within the standardized exposure method.

Below we propose two options for addressing the overestimation of exposure that results from the alternative approach described above.

- Option 1: Incorporate a correlation parameter into the net currency aggregation
- Option 2: Take the maximum of the long and short positions

While the Associations prefer incorporating a correlation parameter into the net currency aggregation (option 1 below) over taking the maximum of longs and shorts (option 2 below), both options would address the issue of double count arising from the split of currency pairs into two. In particular, the EAD for FX under option 1 would decrease by 16%[78] and CCR default standardized RWA for FX would decrease by 13%[79]. Under option 2, the EAD for FX would decrease by 9%[80] and CCR default standardized RWA for FX would decrease by 7%[81].

Option 1: Incorporating a correlation parameter into the net currency aggregation

In this option a bank would take the net currency exposure as in the alternative approach in the Preamble and incorporate a correlation parameter into the currency aggregation to correct for double counting. This would more accurately represent the economic relationships across

[78] *See* Appendix 2.11, Quantitative Impact Study Results, Index Add4a_3.
[79] *See* Appendix 2.11, Quantitative Impact Study Results, Index Add4a_7.
[80] *See* Appendix 2.11, Quantitative Impact Study Results, Index Add4a_2.
[81] *See* Appendix 2.11, Quantitative Impact Study Results, Index Add4a_6.

currencies and, therefore, FX exposures in SA-CCR. This formula is already widely used in SA-CCR for other asset classes and it would also align the exposure calculation with the FRTB,[82] ensuring greater consistency across the regulatory capital framework.

The most straightforward approach would be to use the same SA-CCR formula for equity, commodity and credit, i.e.:

$$AddOn_{FX} = \left(\left[\sum_j \rho_{FX} AddOn_j^{ccy}\right]^2 + \sum_j (1-\rho_{FX}^2)\left(AddOn_j^{ccy}\right)^2\right)^{\frac{1}{2}}$$

As in the Agencies' alternative approach only non-U.S. currencies would be included. The Associations suggest aligning the calibration of the correlation parameter ρ_{FX} to that value that is prescribed in the FRTB, i.e., $\rho_{FX} = \sqrt{0.6} = 77.5\%$. With this calibration, the exposure for the netting set of seven trades used in the example for option 2 below (maximum of long and short positions) would equal 286.

Generally, calculating net currency exposures does not create greater complexity than basing the exposure calculation off currency pairs. Furthermore, the correlation formula above could be implemented easily because it does not change the underlying Add-on calculation.

Option 2: Take the maximum of the long and short positions

As in option 1, a bank would take the net currency exposure as in the alternative approach in the Preamble but then separate the currency exposure into short and long positions and aggregate them. The exposure would then be equal to the maximum of the total long position and total short positions. The following formula shows the calculation:

$$AddOn_{FX} = Max\left(\sum_{AddOn_j^{ccy}<0} \left|AddOn_j^{ccy}\right|; \sum_{AddOn_j^{ccy}>0} AddOn_j^{ccy}\right)$$

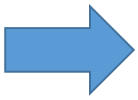
Such an approach would eliminate the double count of exposures. Taking the maximum of the longs and shorts would accurately reflect the exposure of USD 100 in the simple example of a single GBP/EUR FX forward mentioned above. As explained before, all FX transactions are split into two currency exposures versus the settlement currency. Each long exposure represents a short in the settlement currency while each short exposure represents a long in the settlement currency. To the extent the total long positions equal the absolute amount of the total shorts, the settlement currency is eliminated. In such instances, an FX exposure could be synthetically constructed by matching the long non-settlement currency exposures with the short non-

[82] Basel Committee on Banking Supervision, Minimum Capital Requirements for Market Risk (Jan. 2019), *available at* https://www.bis.org/bcbs/publ/d457.html.

settlement currency exposures. That synthetic FX exposure and any amount where the long exposure exceeds the short exposure (or vice versa) would be captured by taking the maximum of the long and short positions.

The following simple example illustrates the above option using a netting set consisting of the following seven FX forwards all with USD 100 equivalent exposures.

Trades	Buy	Sell
1	GBP	USD
2	EUR	JPY
3	JPY	GBP
4	EUR	CHF
5	CAD	USD
6	AUD	EUR
7	AUD	USD



Ccy	Long	Short
GBP		
EUR	100	
JPY		
CHF		100
CAD	100	
AUD	200	
Sum	400	100

In this example, the total long positions equal 400 and total short positions equal 100. The maximum rule would more accurately capture the currency exposure at 400. Without the maximum rule, the total currency exposure would be overestimated at 500.

The Associations support the alternative approach to net by currency instead of currency pair subject to recognition that this approach on its own would overstate exposure by introducing double counting. To mitigate this double counting, the Associations propose to incorporate a correlation parameter into the net currency aggregation similar to that used for other asset classes in SA-CCR and in the minimum capital requirements for market risk.

Question 10: Can the PFE multiplier be calibrated to more appropriately recognize the risk-reducing effects of collateral and a netting set with a negative market value for purposes of the PFE calculation? Is the 5 percent floor appropriate, particularly in view of the exponential functioning of the formula for PFE multiplier, why or why not? Commenters are encouraged to provide data to support their responses.

The Associations believe the multiplier should be calibrated to more appropriately recognize the risk-reducing effects of IM for the purposes of the PFE calculation.

The main driver for the conservative nature of IM recognition under SA-CCR is the calibration of the Add-on which plays a key role in the formula for the PFE multiplier:

$$PFE\ multiplier = min\left\{1; 0.05 + 0.95 * exp\left(\frac{V - C}{1.9 * AddOn^{Aggregate}}\right)\right\}$$

A crucial assumption underlying the PFE multiplier[83] is that the Add-on for margined transactions is equal to $\frac{\sigma}{\sqrt{2\pi}}$.

For the purpose of determining how SA-CCR is calibrated in relative terms, the Associations have compared the result of IM based on the ISDA Standard Initial Margin Model (**"SIMM"**)[8485] for uncleared derivatives with the SA-CCR Add-on. Given that SIMM is calibrated at a 99% confidence level[86], the ratio of SIMM IM to SA-CCR Add-on should be as follows if the underlying volatility estimates across SA-CCR and SIMM IM are consistent and returns are normally distributed[87].

$$\frac{SIMM\ IM}{Add-on} = \frac{\sigma * 2.33}{\frac{\sigma}{\sqrt{2\pi}}} = 2.33\sqrt{2\pi} = 5.84$$

Based on industry QIS data, the actual ratio of SIMM IM to SA-CCR Add-on is 0.9[88] which implies that the SA-CCR Add-on is overcalibrated by more than six times. The following graph illustrates what this implies for IM recognition under SA-CCR:

[83] *See* Basel Committee on Banking Supervision, Foundations of the Standardised Approach for Measuring Counterparty Credit Risk Exposures, 6, Equation 22 (June 2017), *available at* https://www.bis.org/publ/bcbs_wp26.pdf.

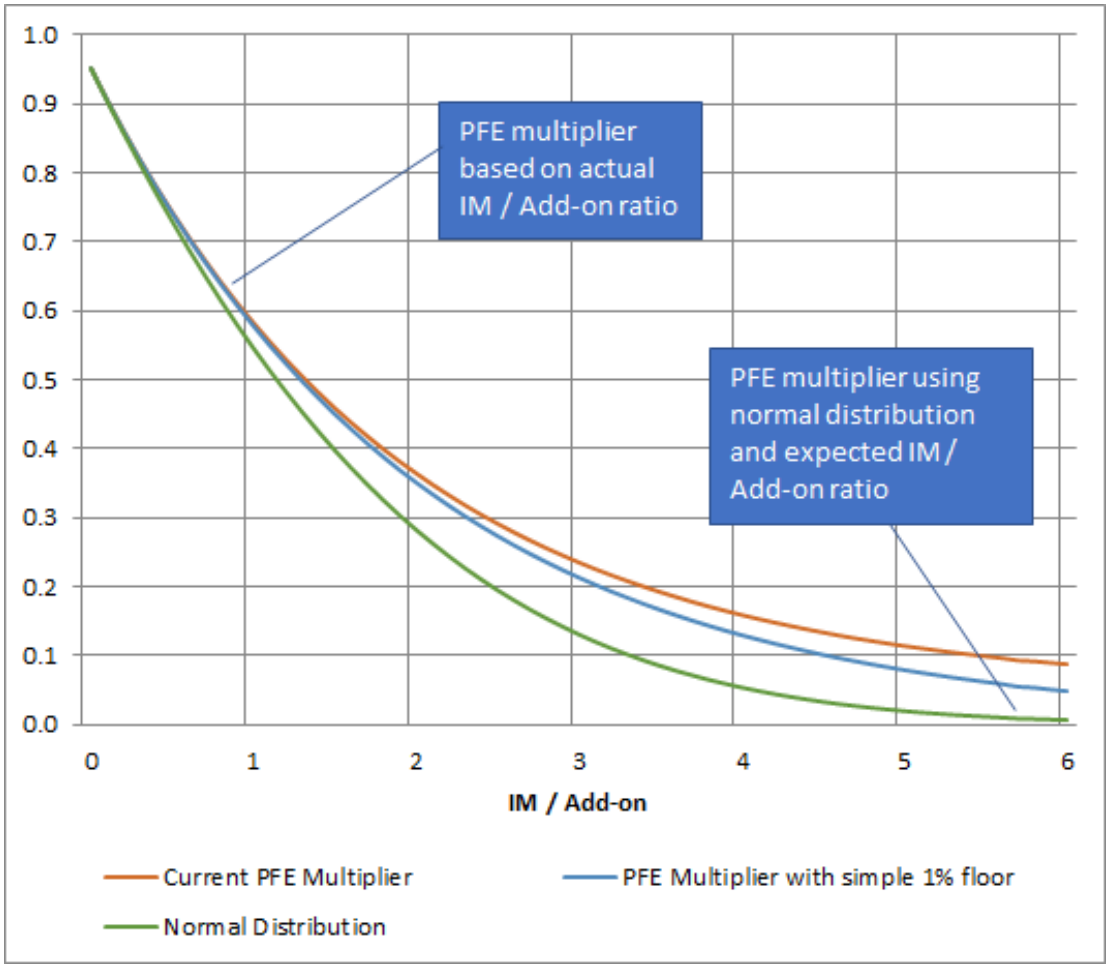
[84]ISDA SIMM Methodology, Version 2.1 (Effective Date Dec. 1, 2018), *available at* https://www.isda.org/a/zSpEE/ISDA-SIMM-v2.1-PUBLIC.pdf.

[85] SIMM excludes certain economic risks consistent with the BCBS IOSCO IM margin rules, in particular risks arising from the physical settlement of the principal component of FX trades as per requirement 1 (see Margin requirements for non-centrally cleared derivatives, March 2015 https://www.bis.org/bcbs/publ/d317.pdf). In addition, it assumes the ability to close out within 10 days as per requirement 3.1. Such assumptions / specifications may not be appropriate for a capital model. This is partially mitigated by SIMM conservatism in other areas, such as the loss of economic netting amongst trades in different SIMM product classes.

[86] As demonstrated by the history of the SIMM backtesting and SIMM monitoring results, SIMM emphasizes a degree of conservativeness that is beyond that implied by its 99% 10-day VAR parametrization, hence empirical evidence suggests that SIMM is sufficiently conservative.

[87] The theoretical ratio of IM / SA-CCR add-on is based on certain assumptions, in particular the presence of normally distributed returns that may not be observable in financial markets. It should be noted, though, that SA-CCR explicitly accounts for this through the choice of the exponential function for the PFE multiplier.

[88] *See* Appendix 2.11, Quantitative Impact Study Results, Index T5b_1.



Based on the current formulation and the observed SIMM IM / Add-on ratio in the QIS of 0.9[89], the PFE multiplier is 0.64 (see above the orange line at 0.9 on the x-axis), providing only a 36% reduction in the Add-on.

The modelled outcome, assuming normal distribution and consistent volatility assumptions of the netting set across SIMM IM and SA-CCR, results in a ratio of 5.84 (as shown above) implying a PFE multiplier of less than 1%, resulting in an almost 100% reduction in exposure (see above the green line at 5.84 on the x-axis).

The main driver for the discrepancy between the actual reduction of 36% and the mathematically derived 100% is the risk-insensitive calibration of the SA-CCR Add-on relative SIMM IM. In addition, under the current PFE multiplier (with exponential function), the expected IM / Add-on ratio of 5.84 would result in a reduction of exposure of 91% (see above the orange line at 5.84 on the x-axis) instead of 36%, contributing around 85% to the underestimation of IM benefits. Replacing the current PFE multiplier with one based on normal

[89] *See* Appendix 2.11, Quantitative Impact Study Results, Index T5b_1.

distribution would reduce the exposure by an additional 10%, contributing around 15% to the underestimation of IM benefits under normal distribution assumptions.

Based on the above, it is essential to adjust the Add-on by a factor to recognize IM in a risk sensitive manner within SA-CCR. The Associations recommend dividing the Add-on by at least 2 for the purpose of calculating the PFE multiplier. This would still result in a conservative calibration. Such an adjustment would generate a PFE multiplier of 0.41 increasing recognition of IM from 36% to 59% (see the orange line at 1.8 on the x-axis). Based on QIS data, such an adjustment would result in an actual PFE reduction of 21%[90].

We also recommend some technical amendments to increase risk-sensitivity in instances where the ratio of $\frac{V-C}{AddOn^{Aggregate}}$ in the PFE multiplier formula is meaningfully higher due to substantial overcollateralization or negative MTM.

Removal or at least amendment of the floor: Any floor by its very nature reduces risk sensitivity. Many factors already contribute to the conservative calibration of IM recognition or negative MTM:

- Calibration of the Add-on (see the above analysis).
- Choice of exponential function as opposed to normal distribution (see the green line in the graph above for the normal distribution compared to the orange line representing the exponential function). The choice of exponential function is meant to capture tail risks that might not be reflected through a normal distribution. Applying a floor is also meant to reflect the effect of tail events, just in a cruder way compared to the exponential function.
- Reflection of collateral volatility through haircuts that do not allow any diversification across collateral.

As a result of these issues, the Associations believe that the floor should be removed. If the Agencies, however, believe a floor is appropriate, we suggest the following two changes:

- The floor should be reduced to 1%. IM is generally calculated at least at a 99% confidence level. In fact, this confidence level is required for any portfolios subject to UMR or client clearing[91].
- The floor should not impact the function itself, but the Agencies should set a floor for the result calculated based on the function. For example, the current exponential function could be amended as follows:

$$multiplier = min\left\{1; max\left(Floor; exp\left(\frac{V-C}{1.9 * AddOn^{Aggregate}}\right)\right)\right\}$$

[90] *See* Appendix 2.11, Quantitative Impact Study Results, Index T5b_13.
[91] *See* 12 C.F.R. 237.8(d)(1); 17 C.F.R. § 39.13(g)(2)(iii).

Please see the blue line in above graph above that reflects this PFE multiplier with a floor set at 1%.

While for certain heavily overcollateralized netting sets these changes to the floor would result in more risk-sensitive IM recognition, the overall impact is minimal given the overcalibration of the Add-on. Based on QIS data, the PFE reduction together with the recommended Add-on adjustment would be 22%[92] instead of 21%[93].

In addition, the Associations continue to believe that banks should have the option of modelling collateral volatility within the Add-on calculation to reflect diversification benefits[94]. This would be consistent with how risk is managed for activity such as client clearing of equity listed options that reference securities. In this example, the clients post the underlying securities (e.g., ETF, stock) as collateral and banks manage risk in the portfolios across the derivatives and the collateral.

Question 11: The agencies invite comment on the proposed approaches to determine the adjusted notional amount of derivative contracts. In particular, how can the agencies improve the approaches set forth in the proposal to determine the adjusted notional amount for non-standard derivative contracts so that they are appropriate for such transactions, including using formulas of the market value of underlying contracts? What, if any, non-standard derivative contracts are not addressed by the proposal, and what approaches should be used to determine the adjusted notional amount for those contracts? Please provide examples and descriptions of how such adjusted notional amounts would be determined.

As a general principle, the Associations believe that it is important to align the notional definition with the bank's actual closeout risk. While standard notional definitions may produce reasonably accurate exposure estimates for the majority of contracts, we are concerned that it would be impossible to apply this to all derivatives. Therefore, we believe that banks should be allowed to diverge from standard definitions when warranted subject to each bank's internal model governance framework and supervisory oversight

Below are some definitions which contribute to the calculation of adjusted notional which we think warrant further consideration:

Option Deltas

[92] *See* Appendix 2.11, Quantitative Impact Study Results, Index T5b_15.
[93] *See* Appendix 2.11, Quantitative Impact Study Results, Index T5b_13.
[94] *See* ISDA Letter to BCBS, Re: Standardized Approach for Measuring Counterparty Credit Risk Exposures - Industry Quantitative Impact Study Findings and Suggestions for Improved Coherence and Calibration Without Adding Undue Complexity, 9-12 (March 20, 2017), *available at* https://www.isda.org/a/qTiDE/isda-letter-to-the-bcbs-on-sa-ccr-march-2017.pdf.

The Proposed Rulemaking addresses one of the main shortcomings of CEM by allowing banks to delta adjust the notional for non-linear derivatives. While we welcome the application of deltas, we are concerned with the prescription of the Black-Scholes formula to calculate the deltas. While the Black-Scholes formula might be an appropriate methodology to calculate deltas for some options, it has a number of well understood limitations, particularly for path dependent options, which limit its application for all options. Banks should be allowed to follow existing internal practices applicable to path dependent options and other complex non-linear derivatives for which the Black-Scholes formula does not work. Use of such internal practices should be subject to a bank's internal model governance framework and supervisory oversight.[95] Use of internally calculated deltas would be consistent with the proposed standardized approach in the Basel Committee standards for FRTB[96].

The Black-Scholes formula may be an appropriate methodology to calculate deltas for some options but it does not work for certain non-linear derivatives, including in particular, Bermudan, Asian, Barrier and other path dependent options. The Black-Scholes formula prices options based on the probability of the underlier being above (or below) a certain threshold at a specific single point in the future (as in European options) [97]. However, in the case of a path dependent option, the price is not determined by a single price point but is instead determined by the path that the underlying asset takes during the option's tenor. This results in complexities and additional factors that impact the pay-off of the option, which the Black-Scholes formula fails to capture.

As an example, we have calculated the delta for a 5-year SPX option with a 75% spot as the knock-in level[98] by applying the Black-Scholes formula. Due to the path dependent nature of the option, the Black-Scholes formula cannot be mathematically applied directly to the option to calculate the delta. Therefore, we have replicated the knock-in option by building a hypothetical portfolio of European options in the following two ways based on spot and volatility conditions as of February 28th, 2019:

1. European option portfolio consisting of three options that will match the delta of the knock-in option

[95] As noted in our Letter, banks could follow the prior notification requirement in the FRB's and OCC's Guidance and provide notice to their supervisors when the internally produced delta materially impacts RWA. *See* Board of Governors of the Federal Reserve System, Guidance Relating to Notifications of Material Changes to Advanced Systems and Modelling Changes, BCC 14-2 (Oct. 10, 2014), *available at* https://www.federalreserve.gov/bankinforeg/basel/files/bcc1402.pdf; Office of the Comptroller of the Currency, Guidance on Advanced Approaches GAA 2014-02: Guidance Relating to Notifications of Material Changes to Advanced Systems and Modelling Changes, *available at* https://www.occ.treas.gov/topics/capital/gaa-2014-2-guidance-on-advanced-approaches.pdf.

[96] Basel Committee on Banking Supervision, Minimum Capital Requirements for Market Risk (Jan. 2019), *available at* https://www.bis.org/bcbs/publ/d457.html.

[97] For European options, the Black-Scholes formula is appropriate because the probability (and as the result option value) can be derived using differential equations techniques; furthermore resulting equation is simple enough for the solution to be expressible in a closed form, which makes it possible to have analytical expressions for sensitivities, including delta.

[98] Knock-in option is an option that has to reach a certain price before it can be exercised by the option holder.

2. European option portfolio consisting of options that will match the vega of the knock-in option

There are a number of potential ways to replicate the original knock-in option by matching other Greeks, such as theta or gamma, but we have limited our analysis to these two examples for purposes of this comment letter.

Different banks could choose to replicate the knock-in option by using different underlying assumptions, including different Greeks to replicate, different numbers of options and different maturities.

In our analysis, the two replication approaches described above provide two very distinct delta values. The deltas would differ further as banks pick different underlying assumptions for the replication of the option.

While the Agencies could provide guidance to follow one of the methods described above, such guidance would still result in inconsistent results across banks depending on the quantities and volatilities assumed by the banks for calculating deltas for the replicating portfolio. In addition, this approach would be operationally difficult to implement as the banks would have to rebalance the replicated portfolio daily based on market moves and changes in volatility. More importantly, the delta that the replication methodology would match would be based on the bank's own internal model.

As a result of the foregoing, we believe that applying the Black-Scholes formula to the exotic options would create more divergence amongst banks, misstate the deltas and result in operational burdens. It would also require banks to maintain a parallel calculation for deltas that would be different from banks' internal risk management and may therefore lead to operational risks. To overcome the limitations of the Black-Scholes formula, we recommend that banks be allowed to use internal models appropriately to capture features of exotic options and produce prices that calibrate to market levels. This would be consistent with the risk management practices of the banks and also subject to governance and controls applicable the banks' financial and regulatory disclosures.

We also discuss this issue in **Part H**.

TBAs

The Associations are concerned about the Proposed Rulemaking's impact on the TBA market. Agency TBA trading is instrumental in providing liquidity and pricing to the overall mortgage market. Under the Proposed Rulemaking, CCR default standardized RWA for TBAs would increase by a substantial amount because banks must consider the maturity of the underlying pass-through security when determining the supervisory duration. Agency pass-through securities are long-dated with 30 years as the standard. The corresponding supervisory duration would be around 16. The resulting rise in adjusted notional amount under SA-CCR would result in a substantial increase in capital requirements.

To alleviate these issues, the Associations request that the notional amount for TBAs be defined as equal to the time-weighted average of the underlying pass-through securities based on an amortization schedule of the mortgages underlying such securities. TBAs are essentially forward contracts on agency pass-through securities. The underlying mortgages of the pass-through securities are subject to a standard amortizing schedule based on the amount that the principal of the mortgages will decline over time. However, the principal amount of the underlying securities does not reflect this future decline. Using the amortization of the mortgages underlying the pass-through securities for TBAs to determine the notional amount would still be conservative because the pass-through securities would also be subject to pre-payments that, if taken into account, would lower the time-weighted amount. This notional amount for TBAs would also be consistent with the language under Section 132(c)(9)(ii)(A)(2) of the Proposed Rulemaking, which provides that notional amount for a variable notional swap is "equal to the time-weighted average of the contractual notional amounts of such a swap over the remaining life of the swap".

The following table demonstrates the issue as well as the industry proposal:

							Risk-Based Exposure		SA-CCR based Exposure (no adjustment)			SA-CCR based Exposure (time weighted notional)			
Program / Coupon	Program	Settlement Date	Underlying maturity	Avg interest rate of mortgages	Price [A]	Pool factor [B]	Effective Duration (based on BBG) [C]	Adjusted Notional based on Effective Duration [A*B*C]	SA-CCR supervisory duration [D]	SA-CCR Adjusted Notional using current notional [B*D*100]	Over-estimation of duration in % [D/C-1]	Time Weighted average notional [E]	SA-CCR Adjusted Notional using time weighted notional [D*E]	Implied Duration using time weighted notional [F=((D*E)/(B*100))]	Over-estimation of duration in % [F/C-1]
FNCL 3%	FNMA 30y	Apr-19	5/25/2047	3.77%	97.4	0.931	6.8	619.3	15.1	1407.9	122%	53.9	816.0	8.8	28%
FNCI 3%	FNMA 15y	Apr-19	3/25/2033	3.69%	99.8	0.928	3.8	352.3	10.1	937.4	165%	49.7	502.2	5.4	42%

Based on Bloomberg calculation, the effective duration for a TBA on 3% FNMA 30y pass-through securities is 6.8. The SA-CCR supervisory duration based on the final maturity of the underlying mortgages would yield a value of 15.1 years, an overestimation of 122%. Based on the Associations' recommendation, the implied duration (implied given that the industry proposal does not directly lower the duration) would be 8.8, only a 28% overestimation over a risk-based calculation. The main reason for this overestimation is that the Associations' recommendation would still not reflect future prepayments. It would only reflect amortizations based on the scheduled mortgage payments.

We also discuss this issue in **Part H**.

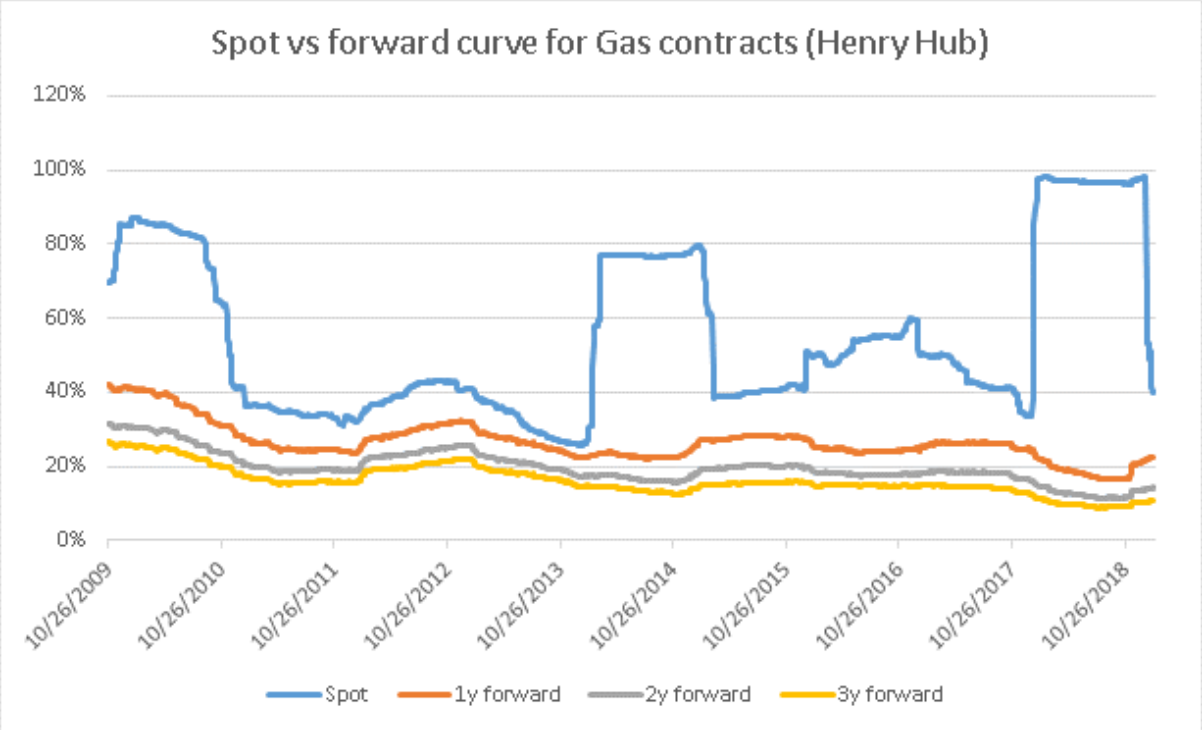
Question 12: Can the agencies improve the supervisory factors under the proposal to reflect more appropriately the volatility specific to each asset class? What, if any, additional categories and respective supervisory factors should the agencies consider? Commenters supporting changes to the supervisory factors or the categories within the asset classes should provide analysis supporting their request.

Commodities: The Associations believe that the supervisory factors for the commodity asset class set by the Basel Committee are overly conservative and not reflective of the actual volatilities that determine the pricing and risk management of commodity derivatives. We

believe that the supervisory factors for the commodity asset class calibrated by the Basel Committee were based on observed volatilities reflecting historical rolling spot price movements rather than the forward swap prices. This significantly exaggerates the volatility of the commodities asset class, as spot prices are impacted by many factors that do not impact the forward curve, such as seasonal spikes due to weather.

Commodity derivatives are primarily used to allow market participants to lock in commodity prices for months or years in the future. The Associations conducted a survey to capture the distribution of commodity derivative exposures across maturity buckets[99]. The results showed only a small portion of commodity derivatives are linked to the spot market (for electricity/ gas it is less than 1% and for other commodities less than 10%). The majority of commodity derivatives are concentrated in the forward market up to 3 years. Therefore calibrating the entire asset class to spot realized volatility (rather than the realized volatility of forward swap prices) vastly overstates the risk of the overall commodities derivative market. For instance, the average realized annual volatility for rolling spot natural gas (Henry Hub) prices observed between 2009 and 2019 is 55%. However, the average realized annual volatility for the 1 year forward NYMEX natural gas contract over the same period is only 27%, for the 2 year forward NYMEX natural gas contract over the same period is only 20%, and for the 3 year forward NYMEX natural gas contract is only 16%. This pattern is observed in all major commodities asset classes: that is, realized volatility is highest in the shortest maturity contracts, and declines with each successive monthly contract. We believe that U.S SA-CCR should recalibrate the supervisory factors for commodity asset classes based on forward swap prices instead of spot prices to appropriately reflect market dynamics and the risk of the underlying derivative contracts.

[99] *See* Appendix 2.13, Survey results of distribution of commodity derivative exposures across maturity buckets.



The volatility and supervisory factors across 1y, 2y and 3y forward curves across electricity, gas and oil were further analyzed. The annualized volatility in the below table represents the maximum rolling one year annualized volatility based on daily returns between 2009 and 2019. The supervisory factor is inferred from the annualized volatility based on: $Supervisory\ factor = \frac{\sigma}{\left(\frac{3}{2}\sqrt{2\pi}\right)}$.

		1y forward		2y forward		3y forward	
Asset Class	Quality / Location	Annualized Vol	Supervisory factor	Annualized Vol	Supervisory factor	Annualized Vol	Supervisory factor
Electricity	PJMW Peak	29%	8%	24%	6%	21%	5%
	PJMW Base	26%	7%	22%	6%	19%	5%
	ERCOTN Peak	41%	11%	31%	8%	26%	7%
	ERCOTN Base	41%	11%	31%	8%	26%	7%
Oil	WTI	56%	15%	50%	13%	47%	13%
Gas	Henry Hub	42%	11%	32%	8%	27%	7%

As the table above shows, the implied supervisory factors are consistently lower than those specified under the Proposed Rulemaking for energy derivatives. We would also note that the implied supervisory factors in the table above are conservatively calibrated based on the maximum volatilities rather than the average volatilities observed for the commodity assets. However, if the Agencies cannot recalibrate the supervisory factors for commodities set by the Basel Committee, they should, at a minimum, align the supervisory factors with the Basel Committee standard. Under the Basel Committee standard, electricity has a supervisory factor of 40% and oil/gas has a supervisory factor of 18%. In contrast, Table 2 to Section 132 of the Proposed Rulemaking includes an energy subclass, encompassing electricity and oil/gas,

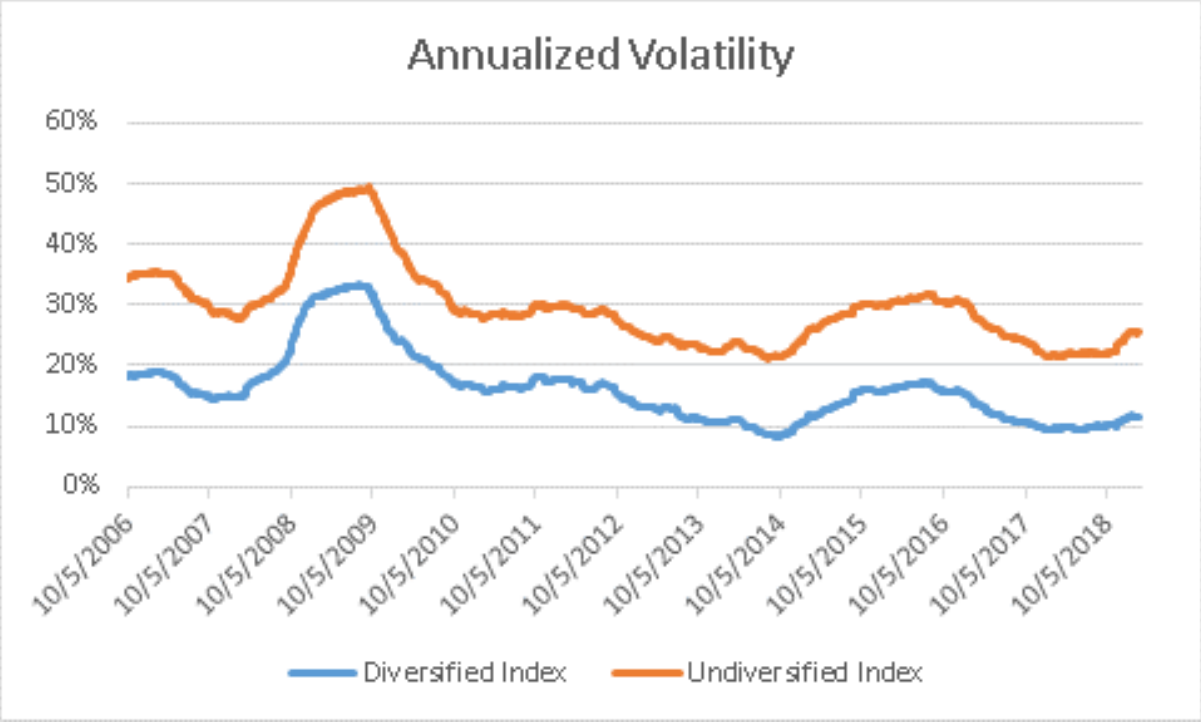
with a supervisory factor of 40%. The higher supervisory factor for oil/gas significantly increases the capital requirements for derivatives relating to oil and gas in a manner divergent from the Basel Committee standard, which we do not believe is justified by the relevant historical data.

Commodity Indices:

The Basel Committee standards as well as the Proposed Rulemaking provide separate supervisory factors, option volatilities, and correlations for credit and equity indices but not for commodity indices. We believe that commodity indices should also be treated similar to credit and equity indices, and assigned lower supervisory factors given the diversification benefit and lower volatility.

The Bloomberg Commodities Index (**"BCOM"**) is an example of a diversified commodities index. It includes assets across different commodity groups, including energy, agriculture, and precious metals. No individual commodity group has a weighting larger than 30%, thus allowing counterparties to gain broad and diversified exposure to the commodities market.

The chart compares the rolling one-year annualized volatility of the index based on current composition where all underlying returns are fully diversified (Diversified Index) with the rolling one-year annualized volatility where the volatility of the underlying constituents are grossed up (Undiversified Index):



The graph above demonstrates that diversification across different commodities lowers the volatility of the diversified index by around 50% on average compared to the undiversified

volatilities of the constituents of the index. . Therefore, we request the Agencies to provide lower supervisory factors for commodity indices, which are similarly calibrated as credit and equity indices are to single names.

Classification of Gold: The Associations also believe that, consistent with CEM classification, gold should be classified under the foreign exchange asset class and receive foreign exchange supervisory factor, instead of being included in the metals hedging set under commodities. Basel II[100] notes that gold is to be dealt with as a foreign exchange position rather than a commodity because its volatility is more in line with foreign currencies and banks manage it in a similar manner to foreign currencies." Furthermore, similar to currencies, gold typically serves as a macro-economic hedge to dynamic market conditions including declining equity prices, inflationary pressures, and political crises. We therefore believe that the supervisory factors that apply to gold under SA-CCR should align with foreign exchange volatility.

Equities: The Associations remain concerned about the increase in capital requirements for equities under SA-CCR. The current CCR default standardized RWA under Basel III Standardized using CEM would increase by 75%[101] for equities using SA-CCR in the Proposed Rulemaking. The Associations do not believe that such an increase is warranted and recommends both recalibrating the supervisory factors and introducing more granular supervisory factors for equities.

As support for these recommendations, the Associations conducted volatility analysis of the equity universe across three different windows (September 2008 - September 2011, September 2011 - September 2014 and September 2014 - January 2019). The tables show the market capitalization of the analyzed equities as of the end of the relevant period. In addition, the tables show a market cap weighted annualized volatility as well as the market cap weighted equivalent SA-CCR supervisory factor based on equation 22 in the document "Foundations of the standardized approach for measuring counterparty credit risk exposures"[102].

Introduction of granular supervisory factors for equities

The categories that the Associations analysed are:

- Investment Grade / Non-Investment Grade (IG / NIG)
- Advanced / Emerging Markets
- Large Cap / Small Cap
- Industry Sector

[100] *See* Basel II: International Convergence of Capital Measurement and Capital Standards, *available at* https://www.bis.org/publ/bcbs128.htm.
[101] *See* Appendix 2.11, Quantitative Impact Study Results, Index Add1c_8.
[102] *See* Basel Committee on Banking Supervision, Foundations of the Standardised Approach for Measuring Counterparty Credit Risk Exposures, 6, Equation 22 (June 2017), *available at* https://www.bis.org/publ/bcbs_wp26.pdf.

IG / NIG:

	2008-2011			2011-2014			2014-2018		
Credit Quality	Market Cap (in $MM)	Annualized Volatility	Supervisory Factor	Market Cap (in $MM)	Annualized Volatility	Supervisory Factor	Market Cap (in $MM)	Annualized Volatility	Supervisory Factor
IG	27,963,686	64.4%	17.1%	38,452,587	33.2%	8.8%	45,710,072	32.0%	8.5%
Non-IG	1,325,752	82.0%	21.8%	1,768,893	49.3%	13.1%	2,932,701	50.4%	13.4%
NR	6,365,904	64.3%	17.1%	7,924,169	38.6%	10.3%	9,183,868	39.2%	10.4%
Grand Total	35,655,342	65.1%	17.3%	48,145,649	34.7%	9.2%	57,826,641	34.1%	9.1%

While IG / NIG differentiation is focused on the credit assessment of the company and does not directly consider equity performance, it appears that this differentiation correlates with equity volatilities given that the underlying performance of the assets is relevant to both. In particular, NIG volatilities are around 30-60% higher than for IG volatilities, demonstrating a relatively consistent pattern over time. The above categorization is based on external credit ratings providing market coverage of over 80%. In the US, this coverage should be higher given that the IG / NIG methodology cannot solely rely on external credit ratings and therefore, needs to consider other factors.

- Overall, the Associations would support the introduction of IG / NIG differentiation with supervisory factors for IG equities at least 30% lower than for NIG equities.

Advanced Markets / Emerging Markets:

A standard differentiation for equities is by region with advanced versus emerging markets.

	2008-2011			2011-2014			2014-2018		
Country Class	Market Cap (in $MM)	Annualized Volatility	Supervisory Factor	Market Cap (in $MM)	Annualized Volatility	Supervisory Factor	Market Cap (in $MM)	Annualized Volatility	Supervisory Factor
Advanced	26,889,280	62.7%	16.7%	38,312,289	33.6%	8.9%	45,922,485	32.3%	8.6%
Emerging market	8,766,062	72.4%	19.3%	9,833,360	38.7%	10.3%	11,904,156	40.9%	10.9%
Grand Total	35,655,342	65.1%	17.3%	48,145,649	34.7%	9.2%	57,826,641	34.1%	9.1%

The above table shows that emerging markets equities demonstrate a consistently higher volatility than advanced markets equities. In particular, the volatility for emerging market equities is between 15% and 25% higher than for advanced market equities. Similar to IG / NIG categories above, this pattern appears to be consistent even though the difference in volatilities is not as pronounced.

- The Associations believe that an emerging market / advanced market differentiation is sensible even though the IG / NIG differentiation appears more pronounced.

Large Cap / Small Cap:

	2008-2011			2011-2014			2014-2018		
Market Cap	Market Cap (in $MM)	Annualized Volatility	Supervisory Factor	Market Cap (in $MM)	Annualized Volatility	Supervisory Factor	Market Cap (in $MM)	Annualized Volatility	Supervisory Factor
Large Cap	35,072,680	65.1%	17.3%	47,690,050	34.6%	9.2%	57,389,409	34.0%	9.0%
Small Cap	582,662	65.6%	17.4%	455,599	43.3%	11.5%	437,232	48.0%	12.8%
Grand Total	35,655,342	65.1%	17.3%	48,145,649	34.7%	9.2%	57,826,641	34.1%	9.1%

The large cap (defined as over $2bn market capitalization for consistency with the FRTB[103] rules) / small cap distinction is another way to differentiate between equity riskiness. As the table above demonstrates, during the financial crisis, the volatility of large caps is not noticeably different compared to the volatility of small caps. In contrast, in the other two periods, there is a distinct difference where the volatility of small caps is 25% to 40% higher than volatilities for large caps.

- Based on this analysis the Associations do not recommend using the Large cap / Small cap distinction to differentiate between supervisory factors for equities.

Industry Sectors:

	2008-2011			2011-2014			2014-2018		
Industry Sector	Market Cap (in $MM)	Annualized Volatility	Supervisory Factor	Market Cap (in $MM)	Annualized Volatility	Supervisory Factor	Market Cap (in $MM)	Annualized Volatility	Supervisory Factor
Basic Materials	3,439,907	79.4%	21.1%	2,772,514	38.7%	10.3%	2,887,801	44.7%	11.9%
Communications	3,286,739	56.3%	15.0%	4,707,466	32.2%	8.6%	6,620,520	34.1%	9.1%
Consumer, Cyclical	3,423,525	64.9%	17.3%	5,201,228	37.0%	9.8%	5,818,051	36.0%	9.6%
Consumer, Non-cyclical	6,083,900	46.6%	12.4%	9,482,707	27.6%	7.3%	11,310,204	29.7%	7.9%
Diversified	301,288	59.8%	15.9%	393,230	34.7%	9.2%	374,760	31.3%	8.3%
Energy	4,873,401	72.0%	19.1%	4,270,401	34.6%	9.2%	4,911,559	41.2%	11.0%
Financial	11,048,598	80.6%	21.4%	12,688,364	39.6%	10.5%	11,048,598	32.9%	8.8%
Industrial	3,260,315	63.7%	16.9%	4,652,192	36.7%	9.8%	5,393,612	33.8%	9.0%
Technology	2,737,286	58.1%	15.5%	3,788,262	34.8%	9.3%	5,964,867	33.6%	8.9%
Utilities	1,501,602	51.3%	13.7%	1,829,052	29.7%	7.9%	1,856,903	30.6%	8.2%
Grand Total	35,655,342	65.1%	17.3%	48,145,649	34.7%	9.2%	57,826,641	34.1%	9.1%

Sector differentiation offers the most granularity compared to the other types of differentiation examined above. Based on the results in the table above, however, volatility differences across equities in different sectors do not appear to be consistent over time apart from a few sectors such as:

- Basic materials: Volatility is consistently higher than the average by 12% to 31%
- Utilities: Volatility is consistently lower than the average by 10% to 21%
- Consumer, Non-cyclical: Volatility of non-cyclical consumer companies is consistently lower than the average by 10% to 21%

These results are not surprising given that one would expect companies in cyclical sectors to show higher volatilities than those in non-cyclical sectors.

- The analysis shows that only certain sectors show consistently above or below average volatilities. Therefore, the Associations do not recommend using sector differentiation alone. However such differentiation could be used in combination with the other broad categories of IG / NIG or advanced markets / emerging markets.

Recalibration of supervisory factors for equities

[103] Basel Committee on Banking Supervision, Minimum Capital Requirements for Market Risk (Jan. 2019), *available at* https://www.bis.org/bcbs/publ/d457.html.

The SA-CCR equity single name supervisory factor of 32% appears higher than the Associations observed based on an analysis of historical data. The calculated annualized volatility represents the maximum of the rolling one year annualized volatility based on daily returns over three time periods of different market conditions. Even during the crisis period of 2008 – 2011, the maximum annualized volatility over the entire analyzed universe weighted by market capitalization does not exceed 65% (equivalent to a supervisory factor of 17%[104]). The SA-CCR supervisory factor of 32% is around 85% higher which we do not believe is warranted.

Furthermore, the Associations also looked at the FRTB[105] risk weights to determine how SA-CCR is calibrated in relative terms. The FRTB risk weights translated to the equivalent SA-CCR risk weights are as follows:

$$SF_{SA-CCR} = \frac{RW_{FRTB}\sqrt{\frac{250}{LH_{FRTB}}}}{\frac{3}{2}2.33\sqrt{2\pi}}$$

The below table shows that, at least across advanced markets, the equivalent supervisory factors under FRTB are considerably lower than 32%. Given that the majority of a bank's exposures are against advanced markets, the current supervisory factor of 32% under SA-CCR appears overly conservative compared to FRTB which we also believe suggests a need for recalibration.

FRTB Delta Equity

Bucket	Mkt Cap	Economy	Sector	Spot RW	Scaled 1Y RW	Scaled 1Y RW (grouped)
1	Large	Emerging Market	Consumer goods and services, transportation and storage, administrative and support service activities, healthcare, utilities	55.00%	31%	31%
2			Telecommunications, industrials	60.00%	34%	
3			Basic materials, energy, agriculture, manufacturing, mining and quarrying	45.00%	26%	
4			Financials including government-backed financials, real estate activities, technology	55.00%	31%	
5		Advanced	Consumer goods and services, transportation and storage, administrative and support service activities, healthcare, utilities	30.00%	17%	22%
6			Telecommunications, industrials	35.00%	20%	
7			Basic materials, energy, agriculture, manufacturing, mining and quarrying	40.00%	23%	
8			Financials including government-backed financials, real estate activities, technology	50.00%	29%	
9	Small	Emerging Market	All sectors described under bucket numbers 1, 2, 3 and 4	70.00%	28%	28%
10		Advanced	All sectors described under bucket numbers 5, 6, 7 and 8	50.00%	20%	20%
11	Other Sector			70.00%	28%	

We also believe that equity index supervisory factors should be adjusted to reflect lower index volatility compared to single names according to the recommendations made above.

[104] *See* Basel Committee on Banking Supervision, Foundations of the Standardised Approach for Measuring Counterparty Credit Risk Exposures, 6, Equation 22 (June 2017), *available at* https://www.bis.org/publ/bcbs_wp26.pdf.

[105] Basel Committee on Banking Supervision, Minimum Capital Requirements for Market Risk (Jan. 2019), *available at* https://www.bis.org/bcbs/publ/d457.html.

Question 13: Can the agencies improve the non-ratings-based methodology under the proposal to determine the supervisory factor applicable to a single-name credit derivative contract? Are there other non-ratings-based methodologies that could be used to determine the applicable supervisory factor for single-name credit derivatives? What would be the benefit of any such alternative relative to the proposal? What would be the burden associated with the proposed methodology, as well as any alternative suggested by commenters?

The Associations understand that due to section 939A of the Dodd-Frank Wall Street Reform and Consumer Protection Act, the Agencies cannot adopt the use of ratings in the calculation as had been proposed by the Basel Committee. However, this issue is not unique to SA-CCR. Under the Basel III advanced approach, the Agencies converted the table based on external credit ratings into probability of default (**"PD"**) ranges in the context of simple CVA to ensure sufficient risk sensitivity. In particular, the table below shows the Basel Committee standard supervisory factors for SA-CCR against the simple CVA risk weights for the PD ranges as per the US Basel III rules and the corresponding credit ratings as per the Basel Committee standards:

Basel Committee Table 2	Table 26 - Assignment of counterparty weight under the Simple CVA		Basel Committee Table 2	Moody's
Credit Ratings	Internal PD (in percent)	Weight w_i (in percent)	SA-CCR Supervisory Factor (in percent)	Average PDs (in percent)
AAA-AA	0.00-0.07	0.70	0.38	0.00-0.058
A	>0.07-0.15	0.80	0.42	0.092
BBB	>0.15-0.40	1.00	0.54	0.269
BB	>0.40-2.00	2.00	1.06	1.029
B	>2.00-6.00	3.00	1.6	3.191
CCC	>6.00	10.00	6.0	10.541

For further illustration, we added Moody's long term averages of PDs[106] in the last column which broadly correspond to the PD ranges used in the simple CVA grid. Given that banks have developed an IG / NIG methodology, they should already be able to relate underliers to particular PD ranges.

If the Agencies decide against the more granular approach set forth above, the Associations believe that the Agencies should at least review the calibration of the IG bucket for single name credit derivatives. Generally the single name IG supervisory factor is on the higher end of the range specified in the Basel Committee standards[107]. In this respect, the Associations' QIS

[106] Moody's Annual Default Study: Corporate Default and Recovery Rates 1920-2017, 35 (Feb. 15, 2018), *available at* https://www.researchpool.com/download/?report_id=1751185&show_pdf_data=true.

[107] Basel Committee on Banking Supervision, The Standardised Approach for Measuring Counterparty Credit Risk Exposures, 19, Table 2 (Apr. 2014), *available at* https://www.bis.org/publ/bcbs279.pdf.

shows that a notional-weighted average supervisory factor of investment grade single name credit derivatives yields a supervisory factor of 0.46%[108] which should at a minimum replace the 0.5% in the Proposed Rulemaking to avoid an overly conservative calibration of SA-CCR. In this respect it is important that the Agencies round the supervisory factors to the hundredth decimal rather than to the tenth decimal similar to the Basel Committee standards.

Question 14: Should the agencies maintain the use of CEM for purposes of the cleared transactions framework under the advanced approaches? What other factors should the agencies consider in determining whether SA-CCR is a more or less appropriate approach for calculating the trade exposure amount for derivative transactions with central counterparties?

SA-CCR is generally more appropriate than CEM for exposures with CCPs because of SA-CCR's greater sensitivity, recognition of margining and more appropriate netting benefits. Banks should have the option to use IMM or SA-CCR for calculating exposures to CCPs (see response to question 15). However, SA-CCR should be enhanced so that it more appropriately reflects the risk of cleared transactions. For the exposure calculation, the Associations specifically propose removing the requirement to include IM (if not held in a bankruptcy remote manner) posted to the CCP in the SA-CCR EAD calculation to avoid double counting.

For the default fund capital charge, it will be critical that QCCPs provide banks with their K-CCP value as the calculation for this requires detailed information on EAD for all members of the QCCP which only the QCCP has available.

For the purpose of the default fund RWA calculation, Section 133(d)(4) of the Proposed Rulemaking requires a bank to calculate their capital requirement (K_{CM}) with respect to its default fund contribution to a QCCP using the formula:

$$K_{CM} = max\left\{K_{CCP} * \left(\frac{DF^{pref}}{DF_{CCP}+DF^{pref}_{CCPCM}}\right); 0.16\% * DF^{pref}\right\}$$

$$K_{CM} = max\left\{K_{CCP} * \left(\frac{DF^{pref}}{DF_{CCP} + DF^{pref}_{CCPCM}}\right); 0.16\% * DF^{pref}\right\}$$

where K_{CCP} is the hypothetical capital requirement of the QCCP.

Section 133(d)(5) further states that when a QCCP provides K_{CCP} to its member banks, the banks must use the K_{CCP} as provided by the QCCP to perform the calculation of K_{CM}. Although the Proposed Rulemaking permits member banks to calculate K_{CCP} if the QCCP does not provide K_{CCP}, it is not feasible for member banks to do so because banks do not have transaction level details of the QCCP's trades with other members. See **Appendix 2.4** for more details on this issue.

[108] *See* Appendix 2.11, Quantitative Impact Study Results, Index Add8b_7.

Question 15: What would be the pros and cons of allowing advanced approaches banking organizations to use either SA-CCR or IMM for purposes of determining the risk-weighted asset amount of both centrally and non-centrally cleared derivative transactions?

We believe it is important to provide banks with an option to calculate their exposures under IMM to ensure a closer alignment with actual risk management. As with any standardized approach, it is difficult for SA-CCR to adapt dynamically to changes in market conditions.

Question 16: What concerns do commenters have regarding the proposal to replace the use of CEM with a modified version of SA-CCR, as proposed, for purposes of the supplementary leverage ratio?

The Associations welcome the adoption of SA-CCR within the SLR to ensure consistency across the regulatory capital framework. However, we have several concerns with the way in which the Proposed Rulemaking incorporates SA-CCR into the SLR.

First, the implementation of SA-CCR's 1.4 alpha factor in the SLR would be fundamentally inconsistent with the underlying premise of the leverage measure, which is based on the book value of a bank's assets in addition to certain off-balance sheet components. Under Section 10(c)(4)(ii)(C)(1) of the Proposed Rulemaking, the on-balance sheet component, referred to as the RC, would be 40% higher than balance sheet values given the application of the alpha factor. While the Associations have general concerns around the alpha factor discussed above in **Part B** and in response to **Question 3**, it is particularly inappropriate in the context of the SLR's on-balance sheet component given the linkage to book values.

A gross up of 40% of derivative balance sheet values implies a concern that they are inherently mismarked. Derivative valuations go through rigorous price testing and valuation procedures and are similar to any other valuations subject to internal and audit reviews. Singling out derivatives and increasing their on-balance sheet amount is arbitrary and unfounded. Therefore, we suggest that Section 10(c)(4)(ii)(C)(1) of the Proposed Rulemaking be removed and that the on-balance sheet component only be captured through Sections 10(c)(4)(ii)(A) and 10(c)(4)(ii)(C)(2) consistent with the current approach.

Second, SA-CCR in the SLR context should recognize collateral provided by a client in a cleared derivatives transaction, as it does in risk-based capital requirements. We discuss this issue in the response to Question 17.

Third, under Section 10(c)(4)(ii)(D) of the Proposed Rulemaking, a bank has to include the full notional of credit derivatives where it provides credit protection to its counterparty. To avoid a double count of exposures for credit derivatives, a bank is currently allowed to remove such credit derivatives from the PFE calculation under section 10(c)(4)(ii)(B). Not allowing such an adjustment is inconsistent with paragraph 49 of the Leverage Ratio section of the Basel III

reform package[109] and also the revised European Union Capital Requirement Regulations II (article 429d para 2(e))[110].

Given that under SA-CCR exclusion of a credit derivative could be exposure reducing or increasing, the bank should have the option to include or exclude such credit derivatives where the bank provides credit protection for a given netting set. Again, such treatment would be consistent with the Basel Committee standards which provide that "*Banks may therefore choose to exclude from the netting set for the PFE calculation the portion of a written credit derivative which is not offset according to paragraph 45 and for which the effective notional amount is included in the leverage ratio exposure measure*". This treatment would avoid double counting if the full notional of the credit derivative is already included in the leverage exposure.

Finally, the Associations request clarity regarding the additional component(s) of "the sum of" under Section 10(c)(4)(ii)(C) of the Proposed Rulemaking beyond Section 10(c)(4)(ii)(C)(1)(i). Section 10(c)(4)(ii)(C)(1)(ii) would not be in addition to 10(c)(4)(ii)(C)(1)(i), but would rather replace it in certain circumstances. In addition, the non-applicability of collateral against derivative fair values under Section 10(c)(4)(ii)(C)(2) is already captured through the collateral offset requirements described under Section 10(c)(4)(ii)(C)(1)(i).

Question 17: The agencies invite comment on the recognition of collateral provided by clearing member client banking organizations in connection with a cleared transaction for purposes of the SA-CCR methodology. What are the pros and cons of recognizing such collateral in the calculation of replacement cost and potential future exposure? Commenters should provide data regarding how alternative approaches regarding the treatment of collateral would affect the cost of clearing services, as well as provide data regarding how such approaches would affect leverage capital allocation for that activity.

The Associations welcome the decision by the Agencies to consult on the recognition of collateral for client cleared trades. In its current form, SA-CCR introduces a fundamental change in the treatment of IM within the PFE calculation. The amount of IM reduces the PFE on a diminishing scale, with infinite IM still leaving 5% of the PFE outstanding. This IM treatment does not accurately reflect the risk reduction afforded by collateral in a liquidation event for a portfolio of cleared trades (see **Part B** and the response to **Question 10 for further discussion on this point**). Recognition of IM has been covered extensively in recent industry consultations and highlighted in the context of the SLR framework, where the Basel Committee recently consulted on potential approaches to account for the exposure-reducing effect of IM. The Associations believe that in the context of bank exposure created from a client cleared derivative transaction, SA-CCR should recognize the exposure-reducing effect of IM and VM across all applicable facets within SA-CCR. Not recognizing (or fully recognizing) client IM

[109] *See* Basel Committee on Banking Supervision, Basel III: Finalising post-crisis reforms (Dec 2017), *available at* https://www.bis.org/bcbs/publ/d424.pdf.
[110] *See* Amending Regulation (EU) No 575/2013, *available at* https://data.consilium.europa.eu/doc/document/ST-6288-2019-INIT/en/pdf.

and VM fails to reflect the actual risks and economics of clearing and contradicts the G20 mandate by creating a financial disincentive for clearing brokers to offer clearing services.

To provide further context, we have included more details specifically on IM offset in the SLR and recent industry consultation below:

Since the adoption of the SLR, clearing services have become more expensive and the capacity of clearing brokers has been constrained, resulting in a number of clearing brokers exiting the market. As evidenced in several papers[111], this has had negative spill-over effects for CEUs and their ability to hedge legitimate business risks in the cleared market, potentially pushing activity towards less efficient or more expensive hedging strategies.

We also note that, depending on the bank specific internal capital allocation processes, SLR-based capital consumption may be the binding factor for client clearing as a business line. As the BCBS, CPMI, FSB and IOSCO report "*Incentives to centrally clear over-the-counter (OTC) derivatives; A post-implementation evaluation of the effects of the G20 financial regulatory reforms*" (**"FSB DAT report"**) recognized, "for the purpose of their own internal management, banks may allocate capital requirements at the business unit level" which "means that while a constraint might not bind at the group level, it may do so when a bank applies it a more granular level."[112]

In terms of survey responses discussed in the FSB DAT report, 64.7% of all clearing brokers stated that the Basel Committee leverage ratio had a significant negative impact and 23.5% of respondents said there has been some negative impact. This means that a large majority (88.2%) of responding banks believe that the leverage ratio impacts their business negatively. The FSB DAT report also concluded that the G-SIBs clear the majority of the OTC transactions. We also note that the increased exposure under SLR feeds into the GSIB calculation via the "size" indicator, which compounds the impact of non-recognition of IM and VM. The G-SIB framework also does not take the complexity reducing effects of clearing into account and also treats the principal and the agency models of client clearing differently, which is not reflective of the risks associated with the two models. Both of these factors will add constraints to client clearing businesses, in addition to the inflated exposure under SLR. Therefore, the Associations strongly support the initiative to consider options for recognizing the benefits of IM and VM within the SA-CCR SLR exposure calculation. The Basel Committee consultation contemplates two targeted revisions:

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[111] *See* The Impact of the Leverage Ratio on Client Clearing, 19 (June 15, 2018), *available at* https://www.cass.city.ac.uk/__data/assets/pdf_file/0016/420370/WP-CBR-01-2018.pdf; Joe Rennison, Post-crisis clearing rules block derivatives users from market, 1 (July 25, 2016), *available at* https://www.ft.com/content/b60acaac-2cc2-11e6-bf8d-26294ad519fc; Jonathan Acosta-Smith, et. al., Staff Working Paper No. 735: The impact of the leverage ratio on client clearing, 3 (June 2018), *available at* https://www.bankofengland.co.uk/-/media/boe/files/working-paper/2018/the-impact-of-the-leverage-ratio-on-client-clearing.pdf.

[112] Derivatives Assessment Team, Incentives to Centrally Clear Over-the-Counter (OTC) Derivatives: A Post-Implementation Evaluation of the Effects of the G20 Financial Regulatory Reforms – Final Report, 64 (Nov. 19, 2018), *available at* http://www.fsb.org/2018/11/incentives-to-centrally-clear-over-the-coupnter-otc-derivatives-2/.

Option 2 would amend the currently specified treatment of client cleared derivatives to allow amounts of cash and non-cash IM (i.e., "independent collateral amount" as defined per SA-CCR) that are received from the client to offset the PFE of derivatives centrally cleared on the client's behalf.

Option 3 would amend the currently specified treatment of client cleared derivatives to align it with the measurement as determined per the SA-CCR as used for risk-based capital requirements. This option would permit both cash and non-cash forms of IM and VM received from the client to offset replacement cost and potential future exposure for client cleared derivatives only.

The results of an industry leverage ratio (**"LR"**) QIS performed in response to the Basel Committee consultation[113] are presented in table 1. The results are based on aggregated data provided by 11 international banks who are active in client clearing.

Chart 1:

Client Cleared Trade Leverage Ratio Exposure under CEM and Current Approach (Option 1)

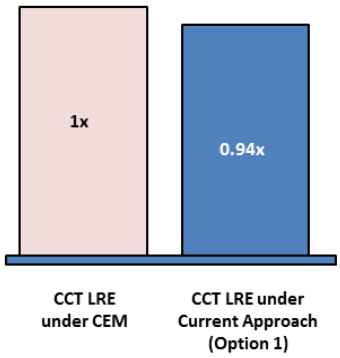

Chart 2:

Client Cleared Trade Leverage Ratio Exposure under Option 2 and Option 3 compared to the Current Approach (Option 1)

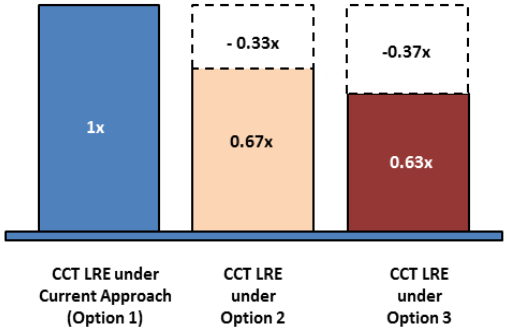

Table 1: Total Leverage Ratio Impacts

Description	**Impacts in % (and in bps)**
LR (with client cleared trade ("CCT") under Current Approach[114]) minus LR (with CCT under CEM)	-0.010% (-1 bp)
LR (with CCT under Option 2) minus LR (with CCT under Current Approach)	0.020% (2bps)
LR (with CCT under Option 3) minus LR (with CCT under Current Approach)	0.022% (2.2bps)

[113] *See* ISDA, GFMA, IIF response to the Basel committee consultation on Leverage ratio treatment of client cleared derivatives (Jan. 16, 2019) *available at* https://www.bis.org/bcbs/publ/comments/d451/isda_gfma_iif.pdf.

[114] Current Approach refers to modified SA-CCR as specified in BCBS d424. *See* Basel Committee on Banking Supervision, Basel III: Finalising Post-Crisis Reforms, 155 (Dec. 2017), *available at* https://www.bis.org/bcbs/publ/d424.pdf.

Risk-based SA-CCR providing for full recognition of IM and VM, both in the RC and the PFE (Option 3), provides the appropriate incentives for clearing, while also addressing the wider systemic capacity concerns as well as concerns evidenced by the way the markets currently function. This has a number of important advantages:

1. It would reduce the cost of providing client clearing services, enabling more banks to build profitable businesses and provide more clearing capacity.
2. It correctly considers and balances the treatment of IM and VM, and thus reaches the most realistic and risk appropriate counterparty exposure.
3. It recognizes non-cash VM, providing flexibility for clearing members to accept non-cash VM from clients and thus reducing the need for connected repo transactions by clearing members who receive non-cash VM.[115]
4. It would simplify the treatment of counterparty credit risk exposure methodologies across the prudential regulatory framework, by aligning risk-based and leverage ratio exposure calculation for client clearing. It therefore avoids introducing an additional calculation methodology on top of risk-based and other derivative calculations in the leverage ratio.
5. In case the SA-CCR is updated or recalibrated, those changes would feed through to the exposure calculation for SLR (which would not be the case if the SLR used a tailored version of SA-CCR).

Failure to properly recognize the netting effect of IM and VM for client cleared transactions in the exposure calculation for the SLR could result in unintended consequences:

1. Cost of clearing and clearing capacity

In the US, since the introduction of the SLR, several banking organizations have stopped clearing derivatives for clients in the U.S. or globally.[116] In many cases, these institutions specifically cited the SLR as the reason that they exited the market.

While a capital charge that significantly increases the cost of providing client clearing is clearly a disincentive to providing clearing services, the CEU clients will often bear at least a portion

[115] Irrespective of this greater flexibility with respect to what the client can post to the clearing member, the Associations believe that CCPs should continue to only accept VM in cash from clearing members.

[116] *See* Deutsche Bank Walks Away From US Swaps Clearing, Financial Times (Feb. 9, 2017), *available at* https://www.ft.com/content/2392bc42-ee47-11e6-930f-061b01e23655; Nomura Exits Swaps Clearing for US and European Customers, Financial Times (May 12, 2015), *available at* https://www.ft.com/content/e1883676-f896-11e4-be00-00144feab7de; State Street Exiting Swaps Clearing Business, Citing New Rules, Bloomberg (Dec. 4, 2014), *available at* https://www.bloomberg.com/news/articles/2014-12-04/state-street-exiting-swaps-clearing-business-citing-new-rules; RBS to Wind Down Swaps Clearing Units, Reuters (May 19, 2014), *available at* http://uk.reuters.com/article/uk-rbs-primeservices-divestiture-idUKKBN0DY0PU20140519; BNY Mellon Closes U.S. Derivatives Clearing Business, Pension & Investments (Dec. 20, 2013), *available at* http://www.pionline.com/article/20131210/ONLINE/131219993/bny-mellon-closes-us-derivatives-clearing-business.

of the increased costs. Clients of clearing members might also suffer from a restriction on the risk they can clear at their clearing broker to ensure that the clearing broker can tolerate capital costs.

2. Concentration risk: client clearing service providers

Increased cost, combined with the high barriers to entry, have resulted in concentration of client clearing at a small number of clearing members[117]. The FSB DAT report states that "five firms, all bank-affiliated, account for over 80% of total client margin for cleared OTC derivatives in the United States, United Kingdom and Japan". This is in line with the publicly disclosed numbers by CCPs. For instance, at the end of 2017 SwapClear's five largest clearing members cleared 77.52% and the 10 largest clearing members 93.9% of the client clearing exposures[118]. As a result, it is more likely that porting of client positions from one clearing member to another could fail upon a clearing member default.

The increased concentration among clearing members, together with the constraints put upon clearing brokers by the SLR, will restrict access to clearing for smaller clients. This is particularly the case for clients with a profile that might not be profitable for a clearing broker because, for example, the client trades less frequently or has large, directional portfolios.

Should one of the biggest clearing brokers default, each of the other four largest clearing brokers would have to increase capacity by 25%[119] on average to absorb and accept porting requests from clients of the defaulted clearing broker. Accepting these additional client exposures will challenge the risk appetite of these banks and could increase their capital requirements significantly. As these large clearing brokers are large banks, or are affiliated with large banks, they are the ones expected to bid in an auction for any residual house portfolio of the defaulted clearing broker. The current SLR formulation could make this very difficult especially considering that porting would likely occur during a period of market stress.

3. Porting and clearing member capacity – a client perspective

We believe that clients' reduced confidence in porting stems from reduced clearing capacity created by the existing capital framework. It is critical to address this issue to ensure that confidence in the cleared market does not further decline during crises.

Porting is necessary for continuity of clearing during a clearing member default and is instrumental to building confidence in a cleared derivatives market. The choice of CCP account structures has increased over the last few years to offer greater asset protection and segregation, fulfilling a necessary condition to ensure the feasibility of porting. Clearing member default is likely to coincide with stressed market conditions. In such a scenario, other

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[117] *See* ISDA Study, Key Trends in Clearing for Small Derivatives Users (Oct. 17, 2016), *available at* https://www.isda.org/2016/10/17/key-trends-in-clearing-for-small-derivatives-users/.

[118] *See* LCH's Q4 2017 Data (Apr. 2018), *available at* https://www.lch.com/resources/rules-and-regulations/ccp-disclosures.

[119] This assumes that five CCSPs with 80% of concentration is split equally between them with each CCSP having 16% market-share. If the four non-defaulting CCSP were to absorb the 16% capacity of defaulting CCSP equally, then their concentration would each need to increase by 4%, going from 16% to 20% market-share. This is equivalent to a 25% increase in their market-share.

clearing members are less likely to want, or be able, to increase risk and capital allocation to this business, which increases the risk of porting failure.

One way of minimizing the risk of porting failure is to increase clearing member capacity. Increased capacity can be achieved by revising capital treatment for the risks associated with carrying client accounts, especially the SLR and its inputs, such as SA-CCR.

4. Incentives drive market behavior

Many clearing brokers restrict the business of their clients in order to manage their exposure under the SLR or charge their clients for the capital required.

As a result, some CCPs have developed special membership models (e.g., a hybrid model) where firms access the CCP directly, with some features similar to that of a classic clearing member. Other firms may decide to become full clearing members themselves to avoid restrictions put upon them by their clearing member.

By becoming either a hybrid or a full clearing member, the restrictions of the SLR fall away. In most models, because the client is accessing the CCP directly, a clearing member will not insulate the CCP and other clearing members from the risk of default of the client. Should the client default and its posted margin is insufficient to cover its losses, the remaining clearing members will have to mutualize the shortfall. Therefore, the overall system is less safe as a consequence of the client trying to manage the restrictions on clearing brokers from the SLR. From a systemic risk viewpoint, such an outcome is highly undesirable

Question 18: Should the OCC permit or require banking organizations to calculate exposures for derivatives transactions for lending limits purposes using SA-CCR? What advantages or disadvantages does this offer compared with the current methods allowed for calculating derivatives exposures for lending limits purposes?

With the movement from CEM to SA-CCR for derivative exposure calculations, it would be appropriate for the OCC to allow banks to utilize IMM or SA-CCR consistent with other regulatory calculations. Banks would then be permitted to decommission the CEM calculator and would only be required to maintain one system for these calculations.

Appendix 2: Clarifications / Technical Comments/ Other Issues

Appendix 2.1 - Adjustments to the IMM and CVA section:

As per Section 132(d)(10)(i)(A)/(B) of the current U.S. regulatory capital rules,[120] a bank can consider CEM for material portfolios for a period of 180 days and for immaterial portfolios without time limitations. The Associations assume that this conservativeness assumption would refer to SA-CCR when it replaces CEM. For this purpose, the current reference to Sections 132(c)(5) and 132(c)(6) in Section 132(d)(10)(i)(A)/(B) should be replaced with a reference to Section 132(c)(5) only. Similarly, we assume this is also the case for Sections 132(e)(5)(i)(C), 132(e)(6)(i)(B) and 132(e)(6)(viii). In addition, we believe that the *current exposure methodology* in the definitions of the U.S. regulatory capital rules should refer only to the standardized approach, not to the advanced approaches, and the current reference to Section 34(a) should be changed to reference Section 34(b).

Appendix 2.2 - STM versus CTM:

Under Section 132(c)(9)(iv)(C) of the Proposed Rulemaking, derivative contracts, such as futures and options on futures with 'futures-style' margining, that are STM on a daily basis would not be considered subject to a 'variation margin agreement' and therefore would be treated as unmargined. Furthermore, Section 132(c)(11)(ii)(B)(1) of the Proposed Rulemaking specifies that all unmargined transactions would need to form a separate sub-netting set. This would mean that CTM transactions (which would be treated as margined) and STM transactions could not be netted for the purpose of calculating the Add-on - even in cases where a bank includes them together in the same netting sets for capital purposes under CEM or IMM because the bank has concluded that such netting has a sound legal basis.

This proposed treatment would create issues in two particular areas: client clearing and LCH SwapAgent.

Client Clearing

As part of its clearing brokerage business, a bank may clear for clients that trade futures as well as listed options on futures and securities (e.g., securities or ETFs). The relationship with the client may be governed by an agreement that, among other things, provides the bank with the right to close out a defaulting client across the derivative transactions cleared for the client under the agreement. Such an agreement forms the basis for the bank's determination that it has a QMNA with the client and can net its exposure to the client for purposes of the U.S. capital rules.

[120] Regulatory Capital Rules: Regulatory Capital, Implementation of Basel III, Capital Adequacy, Transition Provisions, Prompt Corrective Action, Standardized Approach for Risk weighted Assets, Market Discipline and Disclosure Requirements, Advanced Approaches Risk-Based Capital Rule, and Market Risk Capital Rule, 78 Fed. Reg. 62,018, 62222 (Oct. 11, 2013), *available at* https://www.govinfo.gov/content/pkg/FR-2013-10-11/pdf/2013-21653.pdf.

Listed options on futures are characterized by either "futures-style" or "equity-style" margining (listed options on securities are all subject to equity-style margining). For an option on a future with futures-style margining, the buyer generally does not pay an upfront premium to the seller and there is a daily exchange of VM that is characterized as a settlement payment, rather than collateral. Thus, options on futures with futures-style margining are STM transactions that would be classified as unmargined under the Proposed Rulemaking.

For an option on a future with equity-style margining (and for a listed option on a security), the buyer pays an upfront premium to the seller and there is no exchange of VM. However, as the option is considered an asset that could be used in the client's default to offset any other losses the buyer may have, the buyer is allowed to "credit" the net option value (**"NOV"**) of the contract against, and thereby reduce, its IM requirements. The seller receives an NOV "debit" against its IM requirements (which debits the amount that it must collateralize). The contract is subject to daily valuation, with increases and decreases to the NOV resulting in adjustments to buyer's and seller's NOV credits and debits. For example, if the client buys an option for USD 10 and the IM for the contract is USD 6, the option's NOV of USD 10 will fully satisfy the buyer's IM requirement for the option (so that it posts no IM in respect of the position) and also leaves the buyer with an NOV credit of USD 4 that reduces its IM requirements on other contracts.

If a client trades both types of listed options, they will be cleared by the bank under the same brokerage account agreement and, in the liquidation of the client's positions upon its default, they would be subject to close-out netting under the QMNA. However, based on the proposed definition of 'variation margin agreement', the characterization of equity-style margined options as margined or unmargined is not entirely clear, which raises the question of whether a bank could include them in the same netting set as its futures-style margined options for purposes of calculating the Add-on.

Given that the crediting and debiting of the buyer's and seller's IM requirements does not, strictly speaking, represent a transfer of VM, this arrangement may not meet the definition of 'variation margin agreement' which includes 'an agreement to collect or post variation margin'. However, given that the economic substance of daily NOV credits and debits is equivalent to an exchange of VM, the Associations believe that the margining of equity-style options should be treated as subject to a 'variation margin' agreement and therefore that equity-style options should be considered margined under SA-CCR.

Additionally, the Associations believe that banks should be permitted to include equity-style and futures-style margined options in the same netting set for purposes of calculating the Add-on to the extent such netting is supported legally. The Associations also believe that equity-style options should have the same exposure calculation horizon as futures and futures-style options when they are included together in the same netting set because their respective credit risk profiles are indistinguishable. Such treatment is consistent with legal netting rights and client credit risk management practices at banks (and capitalization of client exposures under IMM, if approved).

As an example, it is common for clients to use index futures to hedge listed option positions. For example, a client could go long on the S&P 500 index through listed options and short the S&P 500 through index futures. If a bank were not allowed to net across futures and listed options for this client, it would substantially increase the bank's capital requirement. As an example, if the delta adjusted notional amount is -90 for the index future and 100 for the option on the index, the Add-on amount would be 0.64 if the bank were able to keep both positions in the same netting set. A separation of the two transactions into different sub-netting sets results in an Add-on of 7.84, which is higher by 1100%. The following table illustrates this example:

Scenario 1: F&O in same netting set							
		Delta adjusted notional amount	Maturity / MPOR	Supervisory factor	Maturity factor	Adjusted derivative contract amount	Aggregate AddOn
Option position in S&P 500	CTM	100	5	20%	0.212	4.24	
Future position in S&P 500	STM	-90	10	20%	0.200	-3.60	
Net position in S&P 500						0.64	0.64
Scenario 2: As NPR => F&O in separate sub-netting sets							
		Delta adjusted notional amount	Maturity / MPOR	Supervisory factor	Maturity factor	Adjusted derivative contract amount	Aggregate AddOn
Option position in S&P 500	CTM	100	5	20%	0.212	4.24	7.84
Future position in S&P 500	STM	-90	10	20%	0.200	-3.60	

Clients that commonly execute these types of transactions are market makers who provide essential liquidity to the equity market. Not allowing netting across futures and listed options is inconsistent with the inherent risk of these portfolios, would drive up costs and would ultimately decrease liquidity in this important market.

Similar issues also arise in the interest rate asset class where both futures (e.g. Eurodollar futures, treasury futures) and equity-style options on these futures are traded under the same QMNA. Given the size of trading in these products, the inability to net across options and futures can have a large impact. Furthermore LCH recently introduced the SwapAgent[121] platform to simplify trade processing by aggregating and netting bilateral payment obligations between OTC derivative counterparties and increasing cash flow optimization for its participants. Given these advantages, it is expected that the major counterparties will sign up for this service.

LCH SwapAgent

Upon joining LCH SwapAgent, the counterparties will continue transacting bilaterally under their existing bilateral ISDA Master Agreement. Existing trades and new trades that are not processed through LCH SwapAgent will continue to be subject to a bilateral Credit Support Annex (**"CSA"**). For the trades that a bank elects to process through LCH SwapAgent, the bank can either choose the CTM model or the STM model. Under the CTM model, the trades would be subject to a standard SwapAgent CSA. Under the STM model, the trades would be subject to the SwapAgent STM terms in the SwapAgent rulebook. As is the case of all STM

[121] *See* LCH.com, SwapAgent, https://www.lch.com/services/swapagent.

trades, the SwapAgent rulebook states that the net present value of the trades is reset to zero on a daily basis.

While it is expected that the volume channelled through LCH SwapAgent will increase over time, banks will also continue to have trades that are subject to their existing CSAs. To the extent a bank chooses the STM model for trades that go through LCH SwapAgent, it would effectively have trades under both STM and CTM model in the same netting set. Similar to the argument presented above, the close out risk between STM and CTM trades is the same and both would be closed out on a net basis under the ISDA Master Agreement if a counterparty defaults. Consistent with the arguments presented above, it is important that banks can net STM and CTM trades subject to the same ISDA Master Agreement.

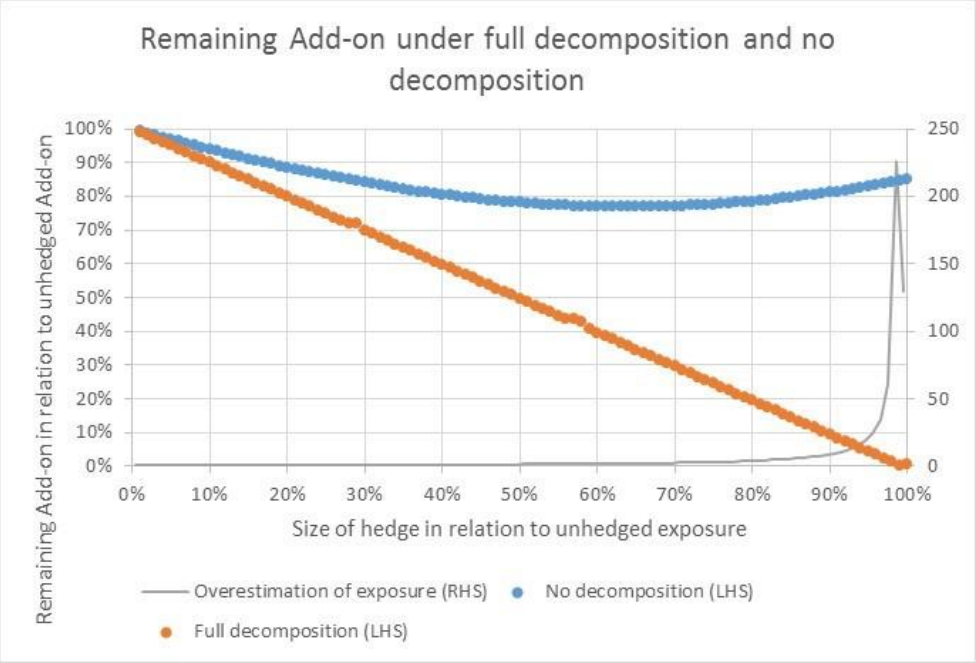
Appendix 2.3 - Index Decomposition:

The hedging set amount for equity, credit and commodity derivative contracts is determined through the formula under Section 132(c)(8)(iii)/ 132(c)(8)(iii) of the Proposed Rulemaking. With respect to equity and credit derivatives, the formula requires a bank to differentiate between an index and single name underlying to allow for different supervisory factors, option volatilities and correlation parameters as per Table 2 in the Proposed Rulemaking. In that way, an index is treated in the formula like a single name, just with different supervisory factors. With respect to commodity derivatives, the treatment is the same except that no explicit index supervisory factors apply. As a result of this treatment, the Proposed Rulemaking does not explicitly allow a bank to decompose an index into its underlying constituents and include those as individual underliers. The Associations believe that banks should be allowed to decompose an index into the underliers and treat those as individual exposures.

Such an option would increase risk-sensitivity for banks in particular as follows.

It is common for certain clients to take positions in listed options on equity indices and exchange traded funds that track those indices. An example could be options on the S&P 500 index and options on the SPDR S&P ETF[122] that tracks the index. Alternatively, the client could also enter into the index position via an index future. While the ETF closely tracks the index, the constituent weights are not exactly the same as those of the index. Given that the Proposed Rulemaking does not specify when or if indices and funds that track those indices can be considered an "identical index" and therefore an "identical reference entity" within the meaning of the formula in Section 132(c)(8)(iii) of the Proposed Rulemaking, the Associations are concerned that SA-CCR under the Proposed Rulemaking would substantially overestimate exposure by treating these closely related indices as different reference entities. The following graph illustrates this issue:

[122] *See* State Street Global Advisors, SDPR, https://us.spdrs.com/en ("State Street created the first US ETF and now offers a broad range of cost-effective ETFs encompassing US and International equities, fixed income, alternatives and solutions.").



The graph displays the Add-on resulting from a position in the SPDR S&P ETF hedged by a position in the S&P 500 under different hedge ratios. The x-axis measures the size of the hedge in relation to the unhedged exposure, i.e., the hedge ratio. For example, if the unhedged exposure in the form of the SPDR S&P ETF is USD 100, 50% indicates that the hedge through the S&P 500 index future is USD 50. The left y-axis shows the remaining Add-on for the combination of the SPDR S&P ETF and the hedge in the form of the S&P 500 index future and the right y-axis shows the overestimation of exposure. For example, if the Add-on resulting from the SPDR S&P ETF were 100, 50% would indicate that the S&P 500 index hedge reduced the Add-on to 50.

The blue line shows the remaining Add-on when both the SPDR S&P ETF and the S&P 500 are treated as different reference entities without decomposition. This shows that the maximum reduction in the Add-on that a hedge can achieve is around 23%, i.e. the remaining Add-on is 77% of the unhedged Add-on (the low point of the blue line). Given the SA-CCR implied correlation of 64% between the two indices, the Add-on increases when the hedge ratio goes beyond 64%.

The orange line shows the corresponding Add-on when full decomposition of the SPDR S&P ETF and the S&P 500 index positions is allowed. Given how closely the ETF tracks the S&P 500 index, the Add-on can be reduced to almost zero through the hedge. Clearly, the SA-CCR implied correlation substantially overestimates the hedged exposure with the error increasing exponentially the higher the hedge ratio. The grey line shows this by displaying the ratio of the remaining Add-on when decomposition is not allowed versus when it is allowed. At a hedge ratio of 99%, the Add-on when decomposition is not permitted is 226 times higher than when it is allowed. The overestimation is lower at a hedge ratio of 100% (126 times) because the ETF invests a portion of its assets in cash and therefore, a hedge of USD 100 through the index results in an over hedge.

Banks facilitate the clearing of listed options on ETFs and indices for market makers. Generally, market makers try to maintain hedged portfolios across options on ETFs and positions through futures or options in the corresponding indices. Not recognizing how closely index ETFs track the indices would result in a vast overestimation of exposures and would ultimately increase capital requirements for banks that facilitate option clearing for market makers.

While less common, clients could have indices hedging single name constituents. The ability to decompose would increase risk sensitivity in the calculation of the Add-on, similar to the example above. For example, a fully hedged index with single name equities would result in an accurate net Add-on of zero if decomposition were allowed. In contrast, without decomposition the remaining Add-on would result in substantial remaining Add-on of 38% of the unhedged Add-on.

The same principle also applies to index credit derivatives with outstanding indices of different series, such as the CDX IG series 31 and CDX IG series 30. In this particular case, three of the underlying 125 names are different. It is common that netting sets would include different series of the same index given that a new series is created every six months. Therefore, it is important for banks to have the option to decompose credit indices in order to calculate their actual close-out risk.

A bank should also have the ability to decompose commodity indices similar to credit and equity. This is illustrated below through the BCOM Index. The calculation is based on Basel Committee supervisory factors that would be identical across all the commodities in order to eliminate supervisory factor differences and solely focus on the impact of diversification benefits on the charge against an index versus a single commodity. Furthermore, this sample is based on a margined derivative exposure of 100 (MPOR = 10 days). The 5.4 in the "no decomposition" column represents the Add-on if the current supervisory factor associated with a single commodity is assigned to the entire index. In contrast the 3.31 represents the Add-on assuming decomposition and calculation based on 132(c)(8)(iv). As shown the Add-on for the index using decomposition is almost 40% lower than without decomposition:

Hedging Set	Commodity	Weight	No Decomposition	Decomposition
Energy	Crude oil (WTI)	7.66%		
	Brent	7.34%		
	Heating oil	2.16%		1.13
	Gasoil	2.62%		
	Gasoline	2.29%		
	Natural Gas	8.26%		
Agriculture	Wheat	3.14%		
	Wheat (Kansas)	1.29%		
	Corn	5.89%		
	Soybean Oil	3.10%		
	Soybean	6.03%		
	Soybean Meal	3.44%		1.10
	Cotton	1.42%		
	Coffee	2.48%		
	Sugar	3.15%		
	Lean Hogs	1.85%		
	Live Cattle	4.09%		
Metals	Gold	12.24%		
	Silver	3.89%		
	Nickel	2.71%		1.08
	Zinc	3.21%		
	Copper (COMEX)	7.32%		
	Aluminium	4.41%		
Sum		100.00%	5.40	3.31

Appendix 2.4 - Default Fund Contribution:

The Proposed Rulemaking would eliminate Method One and Method Two in 133(d)(4) of the current U.S. regulatory capital rules[123] and provide a new method for a clearing member to determine the RWA amount for its default fund contributions to QCCPs. The proposed new methodology would calculate the RWA amount for the clearing member's contribution to a QCCP's default fund as its pro-rata share of the QCCP's default fund, as measured against a QCCP's hypothetical capital requirement. In order to perform the calculation, banks are required to independently calculate the hypothetical capital requirement (using data provided by the QCCP) or they may rely on a value provided by the QCCP. When a QCCP does not provide its hypothetical capital requirement (or, alternatively, the required data), banks would be required to apply the more punitive methodology for default fund contributions to non-qualifying CCPs, which carries a 1250% risk weight.

[123] Regulatory Capital Rules: Regulatory Capital, Implementation of Basel III, Capital Adequacy, Transition Provisions, Prompt Corrective Action, Standardized Approach for Risk weighted Assets, Market Discipline and Disclosure Requirements, Advanced Approaches Risk-Based Capital Rule, and Market Risk Capital Rule, 78 Fed. Reg. 62,081, 62,226 (Oct. 11, 2013), *available at* https://www.govinfo.gov/content/pkg/FR-2013-10-11/pdf/2013-21653.pdf.

While domestic QCCPs will likely be prepared to provide the requisite data, no domestic regulation directly requires them to do so. In addition, QCCPs outside of the United States that are not subject to U.S. regulation may not be prepared to provide the requisite data. Given that the Proposed Rulemaking diverges from the Basel Committee standards, foreign QCCPs would be required to perform a costly additional calculation in addition to the calculation required for foreign banks in their own jurisdiction. It is not clear at the present time that foreign QCCPs are prepared, or planning to, perform these additional calculations or to make the disclosures necessary for U.S. banks to independently calculate their hypothetical capital requirements.

We therefore recommend that the Agencies revise Regulation HH[124] to require that QCCPs regulated by the FRB provide any information required to calculate the QCCP's hypothetical capital requirement for their clearing members' RWA calculations. In addition, the Agencies should work with the SEC and CFTC to provide for similar updates to their regulations that are applicable to domestic QCCPs to ensure that the necessary data is available to U.S. banking organizations in time for U.S. implementation of SA-CCR. Likewise, the Agencies should coordinate with IOSCO, as well as foreign regulators directly, to ensure that foreign QCCPs will be capable of providing U.S. banks with the data they require for RWA calculations under the Proposed Rulemaking. Finally, the Agencies should explicitly state that U.S. banks may rely on the value of a foreign QCCP's hypothetical capital requirement produced under a Basel-compliant SA-CCR regime.

Appendix 2.5 – Elimination of double counting of IM posted to CCPs or clearing members:

The association would like to clarify the following:

- The fair value of the IM posted by the clearing member client and held by the CCP or clearing member in a manner which is not bankruptcy remote should be included in the trade exposure amount as required under section 133(b)(2)(i). That same IM should be excluded from the EAD calculation under section 132 to avoid double counting.
- Similarly, the fair value of the IM posted by the clearing member and held by the CCP in a manner which is not bankruptcy remote should be included in the trade exposure amount as required under section 133(c)(2)(i). That same IM should be excluded from the EAD calculation under section 132 to avoid double counting.

Appendix 2.6 - Cleared Derivatives:

It is unclear how Section 132(c)(12)(iii)(B) of the Proposed Rulemaking would ever apply, as the definition of M under Section 132(c)(9)(iv)(B) does not refer to Section 132(c)(9)(iv)(A)(3). In addition, there is no MPOR under Section 132(c)(9)(iv)(B). The same question also arises with respect to Section 132(c)(12)(iii)(A) given that under Section 132(c)(9)(iv)(B) there is no MPOR. It is also unclear how Section 132(c)(12)(iii)(C) should be

[124] Financial Market Utilities; Final Rule, 79 Fed. Reg. 65,543 (Nov. 5, 2014), *available at* https://www.govinfo.gov/content/pkg/FR-2014-11-05/pdf/2014-26090.pdf.

interpreted. Under Section 132(c)(9)(iv)(A) there is no reference to Mi and with respect to Section 132(c)(9)(iv)(B) the maximum as per the maturity factor formula is 250 business days.

Appendix 2.7 - FDIC Assessment Charge:

As per Section VI of Appendix A to Subpart A of Part 327, the bank is required to include derivative exposures in its scorecard measure. The bank should use the methodology specified in Section 324.34 but only with the recognition of cash collateral that satisfies the criteria specified in the SLR (under Section 324.10(c)(4)(ii)(C)(1)—(7)). It should be confirmed that the RC calculation for a bank using SA-CCR would be identical to the one specified in the SLR and therefore terms such as the threshold amount and MTA would not be applicable. It should also be confirmed that the PFE calculation would completely align with the one specified under Section 324.132(c).

Appendix 2.8 - Recognition of Diversification Benefits in the Interest Rate Asset Class

SA-CCR allows for recognition of diversification benefits across interest rate derivatives within a particular currency across different maturities. However, the methodology defines a hedging set as interest rate derivatives within a currency, which means that no netting is permitted across interest rate derivatives denominated in different currencies. This adds conservatism to the SA-CCR calculation for multi-currency interest rate portfolios. The recent CFTC paper on SA-CCR[125] illustrates this impact and concludes that this is one important driver for the conservative calibration of SA-CCR.

The Associations believe that it is important for SA-CCR to allow for some form of exposure offset across currencies within the interest rate asset class. The Associations note that the standardized approach under the FRTB[126] and, by extension ISDA SIMM, incorporates a correlation parameter to reflect diversification benefits across multi-currency interest rate portfolios. At the same time, the Associations acknowledge that SIMM and FRTB are more complex and therefore the approach taken in these methodologies might not be directly transferable into the SA-CCR framework without significant changes.

To support our recommendation, the Associations have performed an analysis on yield curve correlations across currencies for four major currencies (USD, EUR, GBP and JPY) between 2005 and 2009 consistent with the timeframe the Basel Committee used to calibrate intra-currency correlations[127]. Based on this analysis, correlations are generally flatter across the

[125] *See* U.S. Commodity Futures Trading Commission, An Empirical Analysis of Initial Margin and the SA-CCR, 17 (Sept. 2017), *available at* https://www.cftc.gov/sites/default/files/2018-07/SA-CCRPaper0718.pdf.
[126] Basel Committee on Banking Supervision, Minimum Capital Requirements for Market Risk (Jan. 2019), *available at* https://www.bis.org/bcbs/publ/d457.html .
[127] *See* Basel Committee on Banking Supervision, Foundations of the Standardised Approach for Measuring Counterparty Credit Risk Exposures, 13-18 (June 2017), *available at* https://www.bis.org/publ/bcbs_wp26.pdf.

maturity dimension than intra-currency correlations. Correlations generally range from a high of 70% to a low of 0% as the graphs below illustrate.
Based on this, the Associations believe that a potential approach could be to calculate the maximum exposure under two scenarios (option 1):

- Correlation is 0% across interest rate exposures in different currencies: This scenario would produce the highest Add-on if the portfolio is fairly balanced across net short and net long currency exposures; or
- Correlation of 70% across interest rate exposures in different currencies. This scenario would produce the highest Add-on if the portfolio primarily consists of net long or net short currency positions.

Under option 1, the exposure would equal the maximum exposure under both scenarios. In particular, $AddOn_{Non-correlated}$ captures the 0% correlation while $AddOn_{LS-correlated}$ the 70% correlation:

$$AddOn_{IR} = max(AddOn_{Non-correlated}, AddOn_{LS-correlated})$$

where,

$$AddOn_{Non-correlated} = \sqrt{\sum_i AddOn_i^2}$$

i = refers to all interest rate Add-ons by currency

and,

$$AddOn_{LS-correlated} = max\left(AddOn_{Long-correlated}, AddOn_{Short-correlated}\right)$$

where,

$$AddOn_{Long-correlated} = \sqrt{\left(\sum_j \rho_j AddOn_j\right)^2 + \sum_j \left(1 - (\rho_j)^2\right)(AddOn_j)^2}$$

j = refers to interest rate Add-ons where the net currency position is positive

$$AddOn_{Short-correlated} = \sqrt{\left(\sum_k \rho_k AddOn_k\right)^2 + \sum_k (1 - (\rho_k)^2)(AddOn_k)^2}$$

k = refers to interest rate Add-ons where the net currency position is negative

Net currency position is based on the net adjusted derivative contract amount by currency across the maturity buckets.

Rho j (ρ_j) and Rho k (ρ_k) would be set at $\sqrt{0.7}$ = 0.84 given that this is the highest correlation observed.

The rationale is that when correlations are high, short IR positions will hedge long IR positions, so the risk is that IR currency positions are either long or short. That is captured by the second part of the max formula (i.e. $AddOn_{LS-correlated}$). The first part of the first max formula ($AddOn_{Non-correlated}$) is when the net long and short currency positions are fairly balanced but due to zero correlation there is no hedging benefit.

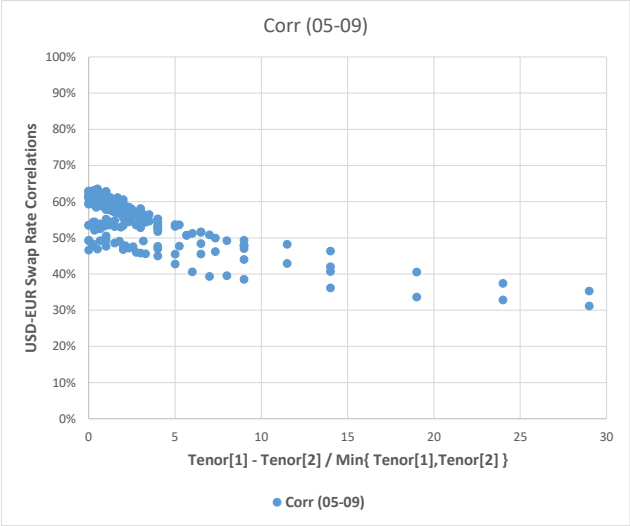
A simpler version would be to recognize diversification benefits through the following formula (option2):

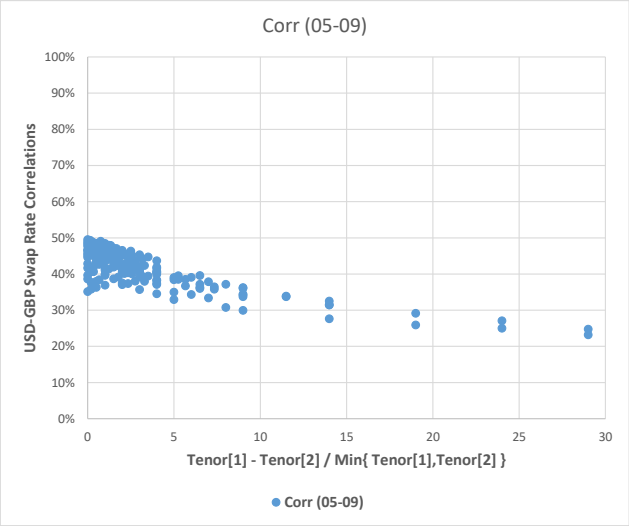
$$AddOn^{IR} = \sqrt{\left(\sum_j \rho_j AddOn_j\right)^2 + \sum_j \left(1 - (\rho_j)^2\right)(AddOn_j)^2}$$

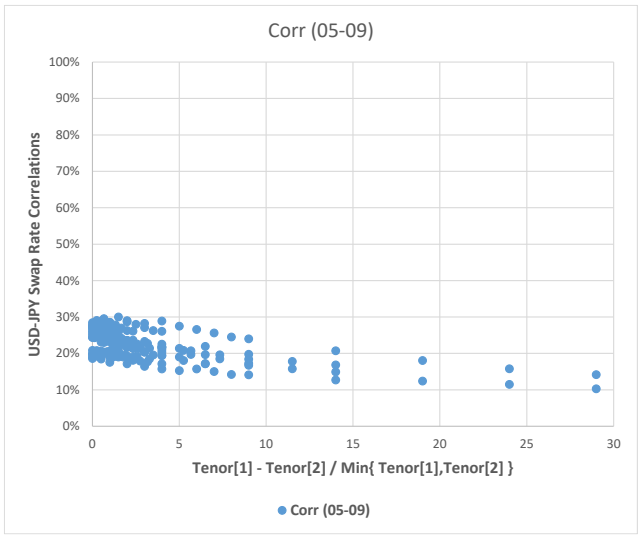
In this formula, $AddOn_j$ would follow the same Add-on calculation by currency as currently prescribed in the Proposed Rulemaking, with netting allowed within an end date bucket and offsetting across end date buckets within the same currency. However, instead of a simple sum of the Add-on per currency, a bank would apply the above formula for aggregation purposes to recognize correlation across currencies. To get any meaningful reduction, though, the correlation parameter would need to be fairly low.

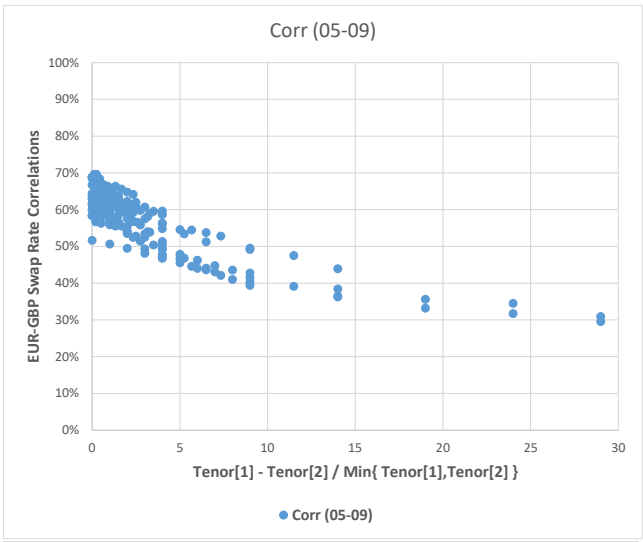
Both approaches would not add more complexity to the calculation and follow established formulas in the commodity, credit and equity asset classes.

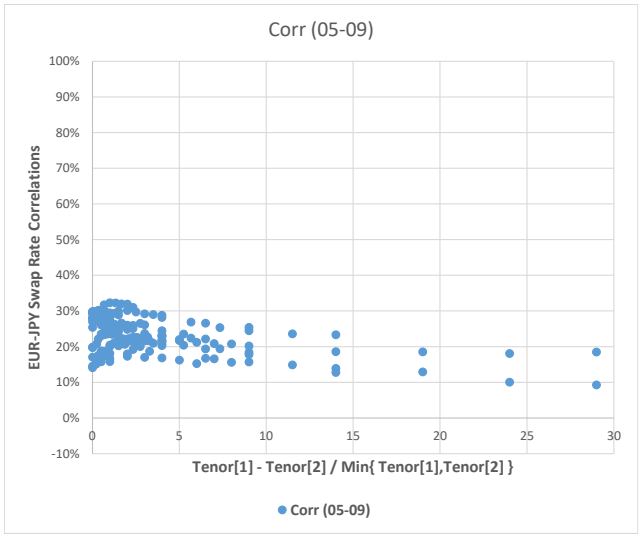
Graphs showing cross-correlations (referenced above):

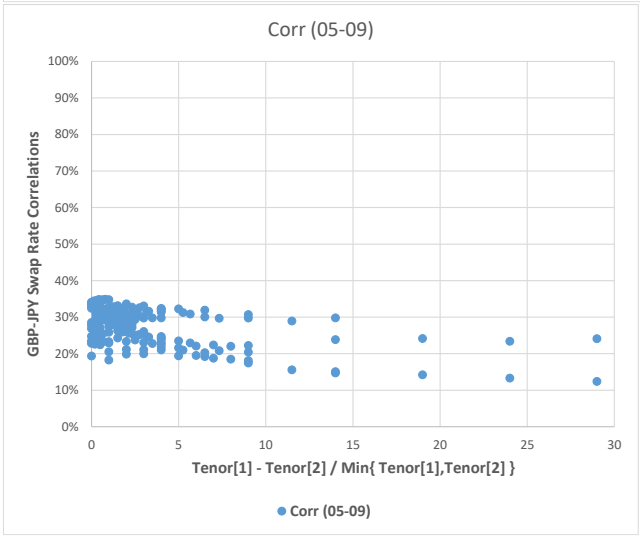












Appendix 2.9 - Duration of a Standard Interest Rate Swap

As per Section 132(c)(9)(ii) of the Proposed Rulemaking, an interest rate derivative's notional amount needs to be adjusted by the supervisory duration formula:

$$Supervisory\ duration = max\left\{\frac{e^{-0.05\left(\frac{S}{250}\right)} - e^{-0.05\left(\frac{E}{250}\right)}}{0.05}, 0.04\right\}$$

S is defined as the number of business days until the start date or zero if the contract has already started and E is defined as the period until the end of the contract. This definition of S could lead to an overestimation of duration for interest rate swaps, including in particular short dated interest rate swaps.

For example, in a standard fixed for floating interest rate swap, one party makes periodic fixed rate payments whereas the other party makes floating rate payments linked to an index rate,

e.g. LIBOR. In a typical interest rate swap, the floating leg is set in advance of the payment period. This means that for the period until the next reset date both parties effectively pay fixed and a known net fixed payment is owed by one of the parties to the other. In a simplistic way, one can think of an interest rate swap as two opposing fixed rate bonds, one with a duration until the contractual end date and the other with a duration until the next reset date.

The definitions in the Proposed Rulemaking overestimate the duration by only considering the fixed side of the interest rate swap and do not recognize the opposing duration on the floating rate side. To correct for this, S should be defined as the period until the next reset date for any interest rate swap where the floating leg or floating legs are set at the beginning of the payment period.

For example, assume that a bank has entered into a fixed / floating interest rate swap with a 5.75 year remaining maturity resetting semi-annually. If the next reset is three months away, then based on the current definition of S and E, the supervisory duration would be:

$$Supervisory\ duration = max\left\{\frac{e^{-0.05(0)} - e^{-0.05(5.75)}}{0.05}, 0.04\right\} = 5$$

A more accurate supervisory duration would be:

$$Supervisory\ duration = max\left\{\frac{e^{-0.05(0.25)} - e^{-0.05(5.75)}}{0.05}, 0.04\right\} = 4.75$$

While this may not make large difference for longer dated interest rate swaps, this impact could be significant for a short-dated interest rate portfolio, as the CFTC highlighted in their paper on SA-CCR.[128]

> The foregoing applies to basis swaps as well if the rate is set at the beginning of the payment period because during the period until the next reset date both payments are fixed. If the reset dates are different for the legs, S should be set to the earliest of those dates.

Appendix 2.10 - Technical Issues

- In the technical revision of the formula for default fund RWA calculation, the Proposed Rulemaking does not contain the factor of 12.5 (the text simply says $RWA = K_{CM}$). The Banking Agencies should clarify whether they intended this omission.

- Section 133(d)(5) of the Proposed Rulemaking appears to have mistranslated the default fund methodology from BCBS 282 with respect to capital requirements for bank exposures to CCPs. In the Proposed Rulemaking, K_{CCP} is defined as $K_{CCP}=\sum_{CM_i} EAD_i *$

[128] *See* U.S. Commodity Futures Trading Commission, An Empirical Analysis of Initial Margin and the SA-CCR, 16 (Sept. 2018), *available at* https://www.cftc.gov/sites/default/files/2018-07/SA-CCRPaper0718.pdf.

1.6%, where EAD_i is defined to be the EAD of a clearing member bank to the CCP. However, BCBS 282's instruction (in Paragraph 207) is that EAD_i is the exposure of the QCCP to the clearing member banks.[129] The proposed text is precisely the reverse of the Basel text. We believe the formula of K_{CCP} in the Proposed Rulemaking is a drafting error and should be corrected to be in line with BCBS 282.

- In addition, Section 133(d)(6) of the Proposed Rulemaking states that for purposes of the RWA amount for default fund contributions, EAD_i should be the sum of the exposure amount of the underlying transactions plus the collateral posted to the CCP, plus the default fund provided to the CCP. This suggests the hypothetical capital requirement, K_{CCP}, would increase as the QCCP collects collateral and default funds, which would penalize firms for posting risk-mitigating collateral and is contrary to the intention of Basel Committee. Therefore, the Agencies should revert to BCBS 282's instruction (Para. 207) which defines EAD_i as the exposure amount of the CCP to the clearing member "and all values of collateral held by the CCP (including the CM's prefunded default fund contribution) against these transactions".[130]

- According to the Preamble, advanced approaches banking institutions must use SA-CCR to calculate all of their exposures under the standardized approach. However, Sections 34(a)(2) and 35(a)(3) of the Proposed Rulemaking state that all advanced approaches firms must use the formulas in Section 133 of the Proposed Rulemaking for cleared transactions. The cross references in Sections 133(b)(2) and (d)(2) of the Proposed Rulemaking allow an advanced approaches firm to use either SA-CCR or IMM. As written, the rule would seem to allow an advanced approaches firm to use IMM to calculate RWA for cleared transactions and default fund contributions for the standardized approach. The stated restriction in the Preamble against using IMM for the standardized approach would require a modification of the language in either Sections 34-35 and/or Section 133 to implement. The Agencies should clarify whether an advanced approaches firm may use IMM to calculate exposures under the standardized approach.

  Proposed Sections 133(d)(3)(i) and (ii), which provide guidance on calculating EAD for default fund contribution accounts where client and firm collateral are intermingled

[129] Basel Committee on Banking Supervision, Capital Requirements for Bank Exposures to Central Counterparties (BCBS 282), ¶ 207 (April 2014), *available at* https://www.bis.org/publ/bcbs282.pdf (providing that "$EADi$ is the exposure amount of the CCP to CM 'i' . . . ." (emphasis added)).

[130] The inclusion of collateral in the calculation of $EADi$ in BCBS 282 is meant to be as a credit risk mitigant not as a separate exposure to be summed with other credit risk exposures. Basel Committee on Banking Supervision, Capital Requirements for Bank Exposures to Central Counterparties (BCBS 282), ¶ 207 (April 2014), *available at* https://www.bis.org/publ/bcbs282.pdf.

or where derivatives and repo style transactions are intermingled, appear to be misplaced as they apply to the calculation of EAD_i used to calculate the hypothetical capital requirement of a QCCP. These subsections should be moved to Section 133(d)(6) of the Proposed Rulemaking.

- In Section 133(d)(3), the Proposed Rulemaking incorrectly numbers the method for calculating the requirements for default fund exposures as "(e)(4)" rather than "(d)(4)" (there is currently no Section 133(e) in the Proposed Rulemaking (or in the current rule), and Section (d)(4) follows (d)(3) immediately without ellipsis and is itself followed by (d)(5) and (d)(6)).

- Section 132(c)(11)(i) of the Proposed Rulemaking provides replacement cost of a 'Netting set subject to multiple variation margin agreements or a hybrid netting set' and therein refers to Section 132(c)(6)(ii). It also modifies the margin threshold and minimum transfer amount components. However, given that Section 132(c)(6)(ii) refers to replacement cost of 'Netting sets not subject to a variation margin agreement', it does not have these components. The Agencies should clarify whether the abovementioned reference to Section 132(c)(6)(ii) in the Proposed Rulemaking should be referring to Section 132(c)(6)(i).

Appendix 2.11 – Quantitative Impact Study Results

Index	Description of the Ratio	% change, ratio or bps[131]
T1_01	EAD SA-CCR vs IMM (Full Portfolio)	77%
T1_02	RWA SA-CCR vs IMM (Full Portfolio)	122%
T1_07	EAD SA-CCR vs CEM (Full Portfolio)	0%
T1_08	RWA SA-CCR vs CEM (Full Portfolio)	30%
T1_14	Change in Leverage Ratio from CEM to SA-CCR	3 bps
Add1b_4.6_comb	EAD SA-CCR vs CEM (End Users + Sov/Muni)	35%
Add1b_11.13_comb	RWA SA-CCR vs CEM (End Users + Sov/Muni)	50%
Add1c_3	EAD SA-CCR vs CEM (Equities)	23%
Add1c_8	RWA SA-CCR vs CEM (Equities)	75%
Add1c_2	EAD SA-CCR vs CEM (Commodities)	29%
Add1c_7	RWA SA-CCR vs CEM (Commodities)	70%
T2b_1	EAD SA-CCR w/o alpha on RC vs CEM (Full Portfolio)	-8%
T2b_2	RWA SA-CCR w/o alpha on RC vs CEM (Full Portfolio)	20%
T2a_1.2.4_comb	EAD SA-CCR vs IMM (Bilateral + Cleared)/Modelled	110%
T2a_11.12.14_comb	EAD SA-CCR w/o alpha on RC vs IMM (Bilateral + Cleared)/Modelled	90%
Add4a_1	EAD SA-CCR NPR vs SA-CCR Baseline (CCY pair netting) (FX asset class)	2%
Add4a_2	EAD SA-CCR NPR (max long & short) vs SA-CCR Baseline (CCY pair netting) (FX asset class)	-9%
Add4a_3	EAD SA-CCR NPR (w/ corr) vs SA-CCR Baseline (CCY pair netting) (FX asset class)	-16%

[131] Ratios are calculated as a weighted average except for (*) ratios, these are calculated using a simple mean as the weighted average was not available.

Index	Description of the Ratio	% change, ratio or bps[131]
Add4a_5	RWA SA-CCR NPR vs SA-CCR Baseline (CCY pair netting) (FX asset class)	3%
Add4a_6	RWA SA-CCR NPR (max long & short) vs SA-CCR Baseline (CCY pair netting) (FX asset class)	-7%
Add4a_7	RWA SA-CCR NPR (w/ corr) vs SA-CCR Baseline (CCY pair netting) (FX asset class)	-13%
T5b_1	IM vs Aggregate AddOn (Top 20 Counterparties)	0.9 *
T5b_11	PFE reduction in CEM due to IM (Full Portfolio)	-43%*
T5b_12	SA-CCR NPR PFE weighted by Aggregated AddOn (Full Portfolio)	-14%*
T5b_13	SA-CCR NPR PFE ("2" removed from multiplier) weighted by Aggregated AddOn (Full Portfolio)	-21%*
T5b_15	SA-CCR NPR PFE ("2" removed & simple floor multiplier) weighted by Aggregated AddOn (Full Portfolio)	-22%*
Add8a_2	RWA SA-CCR NPR Energy SFs vs BCBS Energy SFs (relative to commodity asset class)	37%
Add8a_1	EAD SA-CCR NPR Energy SFs vs BCBS Energy SFs (relative to commodity asset class)	31%
Add8b_7	EAD - Notional weighted BCBS SF across all IG SN credit derivatives	0.46%*

QIS Glossary

EAD	Exposure at Default
SA-CCR	Standardized Approach for Counterparty Credit Risk
CEM	Current Exposure Method
SF	Supervisory Factor
RWA	Risk-Weighted Asset
NPR	Notice of Proposed Rulemaking
PFE	Potential Future Exposure
IM	Initial Margin
IMM	Internal Models Methodology
w/o	Without
Sov/Muni	Sovereigns / Municipalities
CCR	Counterparty Credit Risk
CCY	Currency
corr	Correlation

Appendix 2.12 – Survey results of the application of credit risk mitigants for credit risk purposes

Supplemental Survey #1 Results - US NPR SA-CCR QIS

Letters of Credit

		Yes	No
Q.1	For risk management purposes do you recognize letters of credit (LOR) as a risk mitigating feature?	86%	14%
Q.2	For risk management purposes do you reflect LORs in the EAD estimate?	43%	57%

Liens on Financial Assets*

*This relates to the type of "collateral" that is not removed from automatic stay and / or does not meet the financial collateral definition.

		Yes	No
Q.3	For risk management purposes do you recognize liens on financial assets as a risk mitigating feature?	86%	14%
Q.4	For risk management purposes do you reflect liens on financial assets in the EAD estimate?	0%	100%

Appendix 2.13 – Survey results of distribution of commodity derivative exposures across maturity buckets

Survey Results	Average % Value Across Respondents			
	Spot	<1Y	1-3Y	>3Y
Electricity	0.1%	31.5%	38.1%	30.2%
Gas	0.5%	38.4%	41.2%	19.9%
Other Energy (e.g. oil / coal)	4.2%	53.9%	37.4%	4.6%
Metals	8.8%	73.5%	16.4%	1.3%
Agriculture / Index	7.9%	81.7%	10.0%	0.4%

Glossary

Add-on	SA-CCR aggregated amount
CCAR	Comprehensive Capital Analysis And Review
CCP	Central Counterparty
CCSP	Client Clearing Service Provider
CCR	Counterparty Credit Risk
CEM	Current Exposure Method
CEU	Commercial End-User
CSA	Credit Support Annex
CVA	Credit Valuation Adjustment
EAD	Exposure at Default
EEPE	Effective Expected Positive Exposure
FRTB	Fundamental Review of the Trading Book
GSIB	Global Systemically Important Bank
IM	Initial Margin
IMM	Internal Models Method
LRE	Leverage Ratio Exposure
MPOR	Margin Period of Risk
MTA	Minimum Transfer Amount
MTM	Mark-to-Market
NPV	Net Present Value
PFE	Potential Future Exposure
QIS	Quantitative Impact Study
QMNA	Qualifying Master Netting Agreement
RC	Replacement Cost
RWA	Risk-Weighted Asset
SA-CCR	Standardized Approach for Counterparty Credit Risk
SIMM	Standard Initial Margin Model
SLR	Supplementary Leverage Ratio
STM	Settled to Market
UMR	BCBS-IOSCO Margin Requirements For Non-Centrally Cleared Derivatives
VM	Variation Margin